







## EXCLUSIVE CONTRIBUTIONS

### Dr. W. G. A. Bonwill.

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Dr. W. G. A. Bonwill will spend the summer in Europe, the chief object of his visit being to attend the International Medical Congress, to be held in Moscow, in August. During his stay abroad, he will visit Rome, Florence, Venice, Berlin, Leipsic, Vienna, St. Petersburg and other large cities, and he has expressed a willingness to give clinics, or to lecture upon any of his various methods of procedure, before such dental societies as may desire to have him do so.

It is with great pleasure that this announcement is made, and all societies which extend an invitation to Dr. Bonwill to appear before them, will be assured of an evening both pleasurable and profitable. The immortal bard tells us that:

“The evil which men do, lives after them;  
The good is oft interred with their bones.”

These lines are scarcely applicable to Dr. Bonwill. All the evil that could be said of him, has already been said by those who are either envious of his talents, or his success; while on the other hand, the good which he has contributed, has long been recognized whilst he is yet alive, and hundreds of dentists, and thousands of patients, have profited by the methods and ingenious appliances which have been the result of his brain. It seems, therefore, eminently fitting that Dr. Bonwill's praises should be sung before he passes away, and no time seems more suitable than the present, when he announces that he will leave his home and visit the lands across the ocean. The accompanying illustration is from a first-class photograph recently taken, and shows the doctor as he is.

Dr. William Gibson Arlington Bonwill was born in Camden, Del., October 4th, 1838. He was educated in the common schools until he reached his fourteenth year, and from fourteen to twenty, he was a “Jack of all trades” in the town, working at cabinetmaking, carpentering, making gun stocks, blacksmithing, clerking in a store, etc.

He was first attracted to the study of dentistry by seeing some carved blocks of teeth which impressed him, because of the fact that he had con-

siderable talent as a sculptor. He at once decided to make dentistry his life work, and appealed to his father for assistance, which was declined on the ground that there were already too many dentists. Nothing daunted, he determined to earn the money which would be requisite for his dental education. To this end he worked at odds and ends for four years, finally becoming a school teacher at the age of twenty. He taught school for five months, earning \$125, upon which he clothed himself and paid all his personal expenses. His father, then, in May, 1854, gave him \$150, of which he paid \$50 to Dr. Chapin A. Harris for four months' tuition, at the end of which time he had \$10 left out of his capital. He entered the profession in 1854, having but one suit of clothes, that which was on his back, and which had already been worn for six months; no underclothing for the winter, and no overcoat except one which was four years old. With this equipment, he always appeared clean and tidy in the operating room, at church and at social functions, and withal, he was as proud as Lucifer. Aside from his self-confidence, called by some dentists his presumption, his success was assured from the first because he lived up to the motto which he wears engraved on his ring with his French coat of arms:

"In veritate est victoria."

**Incidents in  
Dr. Bonwill's  
Early Life.**

The following incident in the early portion of his career is illustrative of the strictness with which he lived up to his tenets. He needed \$4 with which to pay his board. A lady called and requested him to insert a set of upper teeth, but stipulated that many old roots present in her mouth should not be extracted. "I will pay anything you ask," said she, "but I won't have those roots out." The doctor turned aside, and thus communed with himself: "Billy, what was your purpose in entering this profession? to make money only, and let all else be submerged? to allow the almighty dollar to rule? Can you set aside your conscience in this case, and please this woman, for the sake of her money?" He turned back to his patient, saying simply, "Madam, I cannot do that kind of work," and she left his office.

The doctor may truly be called a born mechanic. It is related that his father, during his childhood, to turn his mind away from mechanical pursuits went so far as to lock all his tools in a closet that he might not have the use of them. At this time he was only nine years old, yet he succeeded in making a skeleton key with which he opened that closet and recovered his treasures, the result being that his father abandoned the effort to prevent his son from becoming a mechanic, and it is his genius for mechanics which has made him the foremost dental inventor of his day. Against the opposition of capital and dentists, and in spite of the

charge that he is an inventive pirate, he has made more money than any other man out of his dental inventions, which are to-day found in every city of the civilized world, and on no one of them has any person ever been able to add an improvement, every invention being complete and perfect in itself when first finished.

**Dr. Bonwill's  
Dental  
Inventions.**

As long ago as 1867, when electrical science was in its infancy, compared with its present status, the doctor conceived the electro-magnetic mallet, which was finally finished and perfected into a practical instrument in 1870. With this instrument, he claims that he saves two-thirds of his time, and that he can pack a book of gold foil in twenty minutes. In one case his records show that he used up three books of foil in forty-seven and one-half minutes. This instrument was scarcely on the market, when he produced his mechanical mallet, which many operators prefer to the electric. Then he constructed a hand piece for the engine, which may be converted into a mallet in an instant.

His first dental engine was constructed in 1869 when he was too poor to have it patented, and therefore lost control of it. He subsequently, however, produced another which he did patent, and which is still in use in hundreds of offices. His surgical engine was produced in 1872, and was conceived while witnessing a bungling operation at the University of Pennsylvania. Of this engine, Dr. Garrettson said: "It ranks next to the discovery of anaesthesia in its importance in the dental world."

The doctor has in his house, a most interesting museum, containing models of everything which he has designed or invented. In his own opinion, his most important invention is his articulator, based upon his discovery that the lower jaw of man is an equilateral triangle. By the aid of his articulator, he can construct an artificial set of teeth which will perfectly perform every function of mastication, as well as the best set of natural teeth, with which man was ever endowed.

He was the first to shave with a lathe or plane (in 1857) the gold ribbon which he used in filling teeth. He did the same with tin, which has some virtues over gold. These are only a few of his many dental inventions. He has also introduced novelties outside of his profession.

About 1857, he conceived the idea of an injector for injecting water into a boiler by a jet of steam, which four years later was patented in France by M. Gifford, the civil engineer, who reaped a fortune from the invention.

The well-known Welsbach burner has upon it a sliding ring which regulates the flow of air and produces perfect combustion.

This was originated by Dr. Bonwill for use on kerosene lamps, to prevent the breaking of chimneys. The present plan of lacing shoes by buttons was patented by him in 1865, as well as the ring at the top of the shoe for fastening the laces without tying. He also made an improvement on the gimlet pointed screw, and originated the present form of safety pin. The doctor has recently announced his intention of inventing at an early date, a means of navigating the air by aid of the trolley system, the wire to be passed up to the vessel in mid-air, the power and weight being on the earth.

It may not be generally known that the doctor is the author of something over one hundred and fifty poems, as unique as are his inventions.

The doctor has received many medals as marks of distinction for his original inventions, but he considers that the highest honor ever paid him was at the International Dental Congress in Paris in 1889, when the dentists present, enthusiastically lifted him upon their shoulders and carried him around the room amidst deafening cheers. He says that in his native city he has never received any honors, and he adds: "I am proud of the manner in which my own city has disowned me."

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### **Fibroma of Superior Maxilla.—Sciagraph.—Operation.**

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By HOWARD LILIENTHAL, M.D.,

*Assistant Surgeon to Mt. Sinai Hospital, New York.*

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Miss A. F., a young lady nineteen years old, came to me on April the fifteenth, 1896, showing a swelling of the upper jaw above the left incisors and canine. The swelling was hard, painless and covered with normal mucous membrane. It had been noticed first about two years before and had gradually enlarged until, when I saw her, there was a noticeable pushing forward of the left side of the upper lip. The central incisor crown was tilted toward the left lateral incisor, as though a mass within the jaw had pushed the tooth root in the opposite direction, the edge of the alveolar process acting as a fulcrum. The left central incisor had become quite loose. The enlargement had been of slow growth, but for a few weeks before my examination, it had increased more rapidly. A dentist had pronounced the tumor to be a cyst, although he made a puncture and withdrew no fluid. He believed it to be dependent upon the presence of an abnormally developed tooth (dentigerous cyst).

At just about the time when this patient came to me, the discovery of the X rays had fired the scientific world with interest and curiosity. The possibilities were just beginning to be known, and all work in the application of the rays was experimental in character. I determined to see what diagnostic aid the new photography would afford me in this case. Mr. Frank Martin, of 110 East 26th Street, very skillfully did the work for me. I decided that the plate must be held in the patient's mouth and that the Crookes tube must be at about the level of the patient's nose, allowing the cathodal force to traverse in succession the nose, the cheeks and lip, and finally the jaw. Mr. Martin cleverly contrived a plate holder of paper covered with gutta percha, and took the picture which is here reproduced. In the original plate, the lip and nostrils dimly show.



FIG. 1.

The tumor mass is here plainly seen pushing and tilting the incisor root as I had supposed. The bone is evidently rarefied at the location of the tumor, and it is obvious that no encysted tooth is present. The roots of the other teeth at the same level as the tumor, are seen distinctly and show us that were a tooth present, it would be disclosed. (Fig. 1.)

From the history of the case, I now believed it wise to remove the tumor with its capsule and the surrounding tissue in one piece, fearing that incision into the mass might determine a general infection, if the tumor should prove malignant. Accordingly, three days later at Mt. Sinai Hospital the patient was chloroformed, and I chiseled away the entire mass with the two left upper incisors and the canine, so that everything came away in one piece which was of wedge shape, the base of the wedge being formed by the teeth. The apex, or upper edge of the tetrahedron—which term more exactly describes the excised mass—extended to the mucous membrane of the floor of the nose, but did not enter the nasal cavity. Hemorrhage was not severe and was controlled by wax.

The cavity was packed. Recovery was rapid, complete and uneventful. A prosthetic appliance with three artificial teeth was made for the patient by Dr. G. Howe Winkler, of New York, and it so well fulfills its purpose, that no deformity whatever is visible.

The specimen was kindly photographed for me by Dr. R. J. Devlin. It is shown in Fig. 2 just as it appeared after its removal. The cleft between the incisors shows where, after the operation, I split the mass with



FIG. 2.



FIG. 3.

a chisel, and Fig. 3 shows the split specimen laid open. The tumor proved to be a fibroma. It may best be seen in the right half of the picture as an almond shaped white mass. The microscopical examination was made by Dr. F. S. Mandlebaum, pathologist to the hospital.

The history of this case should be recorded because of its intrinsic interest and because, so far as I can ascertain, it antedates any similar application of the X rays where, by operation, the examination of the specimen was possible to confirm the diagnosis, even if, as here, this diagnosis had to be the vague one of *tumor*. We, at least, could eliminate the possibility of dentigerous cyst. Had an abnormal tooth been shown in the sciagraph, its removal and the destruction of the cyst wall might have avoided the radical measures which were pursued.





## Cleft Palate.

### The Sequel of a Surgical Operation Performed During Infancy.

BY NORMAN W. KINGSLEY, D.D.S., New York.

In the *Dental Cosmos* of February, 1894, in an article entitled, "Treatment and Education of Cleft Palate Patients," I related the history of a case of a child between three and four years of age, born with a cleft palate, which I conceived a favorable opportunity for a staphyloraphic operation. It was the only case, which had ever come under my observation, where I thought it was possible for the function of articulation to be restored by surgery. I have stated my reasons so many times for doubting the success of surgery in producing that result, that it seems almost unnecessary

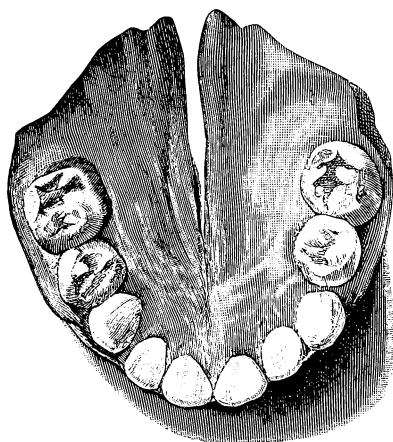


FIG. 1.

to refer to it again, but as this article may come before the eyes of some not familiar with these views, I will briefly repeat them.

Perfect articulate speech can only be acquired by such persons as can control the voice in its passage through the pharyngeal cavity, either by closing the posterior nasal passage and turning the current through the buccal cavity, or by shutting off the buccal cavity and directing the sound through the nares, or, as in case of vowel sounds, by having both passages open and unobstructed. Unless the normal velum acting as a valve hinged to the palate bone, is capable of the above described movements, articulate speech will be imperfect, and likewise if the palate be split or otherwise deformed, articulation will also be faulty.

During almost a lifetime, I had been expecting that surgical skill would reach that degree that a cleft palate could be sewed up and the function of articulation attained, and I believed that in a favorable case where the tissue was not scanty, if operated on in infancy, distinct articulate speech would as certainly follow as with normal organs. I maintained this hope notwithstanding that in all the surgical successes I had seen, the palate was too short to close the posterior pharynx. My hope was based upon the good results I had seen follow training, and I believed that a child with such an abundance of tissue as would make a union feasible and simple would put my theory to the test.

It was with this expectation that I referred the father of the child above indicated to the late Prof. Garretson, of Philadelphia, who I assured the father was a most skillful and conscientious surgeon. Prof.

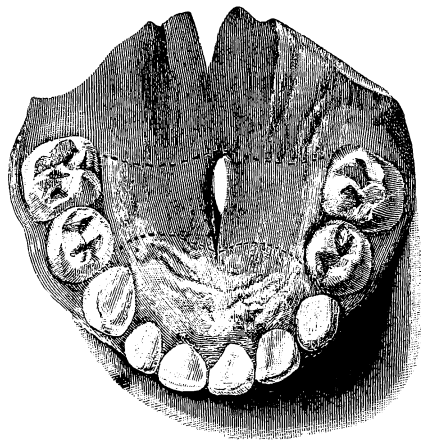


FIG. 2.

Garretson advised against an operation, and I heard no more of the matter for some months when the child was again brought to me, and I found that an operation had been performed by some one else with a fair measure of success. There was still a small opening at the apex of the fissure, and the bifurcated uvula was not completely united, but there was a good movement of the newly formed velum, which was very encouraging. The suffering of the child had been such that the parents declined to submit her to a supplementary operation to close that apical opening, and it was readily covered with a small plate reaching across, and supported by the molars.

Fig. 1 shows the condition before operating, and Fig. 2 subsequently. The dotted line on Fig. 2 indicates the form and position of the obturator.

It was with these encouraging conditions that I placed the child un-

der the tuition of an accomplished teacher of articulation, with the expectation of marked benefit, and this notwithstanding that the palate was really a little too short to make contact. I believed that active and constant training would not only prevent contraction of the palate, but would have a tendency to enlarge and lengthen it as the child grew older. This latter I could not reasonably expect without a continued effort to articulate such sounds as were defective.

There was apparently the same reason for expecting that result as to expect that a vocal student could reach higher notes under training and practice. The child was of an age when very few even with normal organs articulate perfectly, and therefore with special instruction, I be-

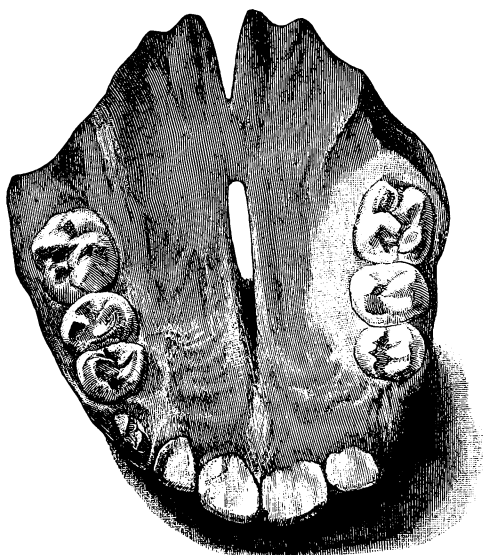


FIG. 3.

lieved that distinct articulation would be reached quite as soon as in other children of her age.

In the course of two or three years, I began to realize that the anticipated development was wanting. The opening at the apex was growing larger, although the plate which covered it exerted no such influence, and I found it necessary to make a broader one. With the growth of the child the length of the jaws and soft tissues increased posteriorly, but the cicatrix remained in a fixed condition and position, so that what was at first scarcely more than a divided uvula became a marked cleft from the development of the two sides of the palate, which grew posteriorly. The

pharyngeal passage to the nose, which should have been bridged by the elevated velum was wider, and thus the development by natural growth was defeating all that which had been expected from training. The training as described, was persisted in for seven years without any other marked benefit than improvement in the quality of the voice. Articulate speech was quite as defective as I have seen in many patients with fissures much more extensive, and I was obliged to recognize that the experiment was a failure. It seemed only to reconfirm the opinion held by me for many years that any passage to the nose which cannot be voluntarily closed, will affect the articulation, and no amount of training can completely overcome it.

The statement does not apply in its full force to cases of accidental lesions of the palate—such misfortune rarely occurs until one has passed

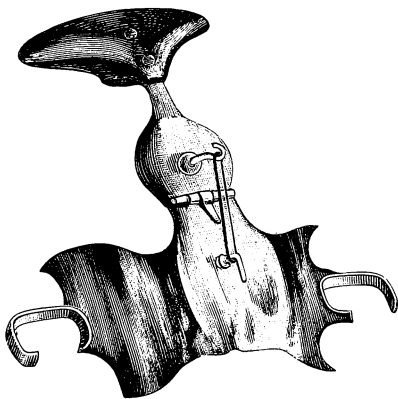


FIG. 4.

childhood, and then the function of articulation has already been perfected with normal organs. I have seen cases belonging to this latter class, where a portion of the palate was permanently lost, and the speech in the distinctness of its enunciation was not materially affected. The most characteristic feature of these latter cases is the nasal tone of the voice, which is sometimes more disagreeable than indistinct utterance. But in cases of congenital cleft palate, I have always maintained that perfect articulation cannot be acquired with a velum so defective that the oral and nasal passages cannot be voluntarily closed. It was because of what I had seen accomplished by persons with accidental lesions that I persisted with the training of the child above described. The desire of making a thorough test, together with the mortification of finding my original advice a mistake, led me to persist until it became unmistakably

evident that the case was hopeless of benefit pursued on that line, and at the age of twelve years, I was obliged to face the problem of an artificial palate under most adverse circumstances. Fig. 3 shows a model of case at this time.

To make a successful artificial palate for a fissure that has not been meddled with, requires much skill and long experience, but to make an instrument where the fissure has been nearly sewed up, puts one on his mettle. The first temptation was to slit it open, thus undoing the surgery, but I could hardly attempt that, after having in the first place ad-

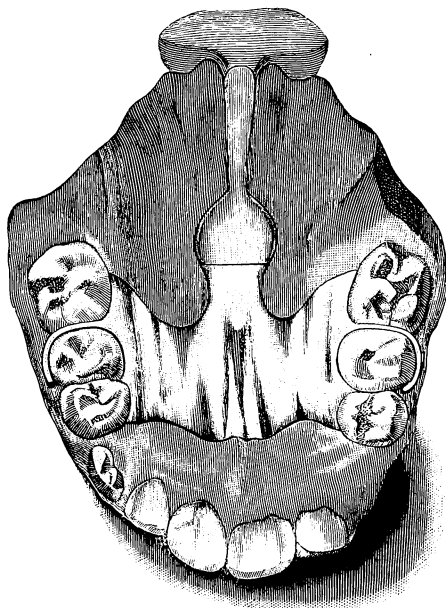


FIG. 5.

vised it, and besides there was considerable movement of the palate which might be utilized to advantage.

As it is easier to make a big watch than a small one, so it is easier to make a velum for a very large fissure than for a very small one. Fig. 4 shows the instrument viewed upon its superior surface. The metal part is irridio platinum—I prefer this metal to all others for this purpose. The velum is of flexible vulcanized rubber, and is buttoned on to an appendix of the plate. The appendix is connected with the plate at about the locality of the posterior edge of the palatine bone, by a hinged joint which allows a perpendicular movement, accommodating itself to a like move-

ment of the natural palate. There is also an extension or stop to the hinge, which prevents the velum from dropping too low.

To overcome the possibility of the velum dropping out of place when the levator muscles are in action, I felt the necessity for some simple but reliable spring which would keep the appendix always in contact with the palate. All sorts of contrivances came to my mind, but were discarded because of their liability to get out of order—the difficulty of repair, or cumbersomeness. The lucky thought came when I availed myself of the opening already in the roof of the mouth into which I allowed two hooks to project without any interference with the membranous sides; one of these hooks it will be seen, is attached forward of the joint and the other behind. An elastic ring, cut from rubber tubing, caught on these hooks produces exactly the desired effect. I take some satisfaction in this contrivance, because it is so effective, so simple, so easily adjusted, and the tension under control of the wearer. The renewals cost virtually nothing and thus it is practically permanent.

Fig. 5 shows a plaster model with the instrument in place. When it is in the mouth and in the position represented by the cast, there is abundant space behind the velum for nasal respiration, but when the levators of the palate are acting, that space can be, and is closed. It is the ability to close that space, as I have before remarked, that makes perfect articulation possible. This instrument has only just been introduced, but I am expecting more rapid improvement in the speech than in most other cases of artificial vela.

With the long years of effort in using the vocal organs properly, but without effective result because of a defective organ, I have reason to expect that she will begin immediately to talk properly because she has something to talk with. There is no reason, physiological or other, why a cleft palate child with a properly adjusted artificial velum should not learn to articulate his mother tongue perfectly quite as rapidly as another child would learn to speak a foreign language.

The mistake which surgeons and dentists are constantly making is advising delay—twelve years old is better than fifteen, and eight years or even six, is better than twelve. It is only the difficulty of working in the mouth, and the difficulty of finding proper attachments for the plate, that make an earlier age ever objectionable. One of my most successful cases, however, was for a child who had not at the time a single permanent tooth in her head.





## The Correction of Cleft Palate.

BY WM. A. BRYANT, M.D., D.D.S.

*Read Before the Stomatological Club, March 30, 1897.*

Reported by CLYDE PAYNE, D.D.S., San Francisco.

The subject I wish to bring before your notice to-day is one which receives too little attention by our profession, namely, the correction of cleft palate.

We have within our means the power to do with mechanical contrivances the same good in rectifying the mistake of nature as the surgeon with his skill and with far less discomfort and pain. Through our attempt at correction no evil after effects can follow and if with our first effort no improvement is noted the second may be crowned by success.

Too much is at once expected by the patient as regards the improvement in speech and great care should be exercised to have it fully understood that the articulation must be learned, especially the lingual and palatal sounds.

The dental correction of cleft palate is by the use of obturators as these instruments are called, which close the opening in the palate, or as they might be more properly termed, artificial palate or vela.

Ivory, gold, silver and vulcanite have been successfully used by the dentist. These have now mostly been supplanted by the vulcanized soft rubber.

To more clearly explain the method allow me to present the case of Mr. S—.

Patient 32 years of age with congenital cleft, and hare lip to the left of the median line extending fully into the nasal cavity. The vomer had a slight attachment to the left palatal process.

Patient was first operated upon for the correction of the hare lip; a periosteal flap was formed on right and left sides with the mucous membrane edges in a line with the cuspids. Central and lateral incisors missing. Three weeks afterward he returned. After first cleansing the nasal cavity and mouth of all mucous discharges with a 3 per cent. solution of pyrozone mixed with equal parts of euthymol, I then sprayed with 5 per cent. solution of cocaine to allay the sensitiveness, allowing five minutes to elapse before taking the impression.



FIG. 1.

Mix the plaster pretty stiff and carry it well up in the nasal cavity. While still soft, introduce a long screw into the center of the plaster to act as a handle with which to withdraw the impression, after allowing it to harden thoroughly. When removed, unscrew the handpiece, trim the roughened external surface and cut two or more cone-shaped depressions. Place the impression in hot oil and allow it to soak for a few minutes, remove, drain and replace in the mouth, taking great care to have it occupy its **true** position in the nasal cavity. Proceed then to take an impression of the hard palate as for ordinary artificial dentures, only using



plaster thinner as the palatii muscles are apt to draw away if any pressure is brought to bear upon them.

A good plan I have found to prevent the semi-fluid plaster running down the throat, is to extend the impression cup with a sheet of gutta percha, the edge having an upward turn like a saucer.

After filling the cup, thus formed, slightly warm the edges of the gutta percha and carry directly back to the pharynx. Force your plaster forward and upward. Do not attempt to remove the impression until the plaster has firmly set.

It is always best to have two impressions. Compare carefully with the mouth and select the one where the lines of the muscles are most clearly defined.

Replace the halves of the impression, coat with varnish and make a cast of the nasal portion up to a plane of the true palatine surface.

Trim, cut your guides, oil and make the cast of the palate and teeth. By thus having your cast in two portions you have a better opportunity to manipulate the modeling material in the nasal cavity and the independent cast of the palatal portion and teeth. (Fig. 1.)

The next step is forming the model for the velum. The rule to be followed, and one which will suit all cases, is to make the model resemble as nearly as you can, the tissue which nature has failed to provide. Care must be taken to avoid any passage of air between the closed palatal portion and the nasal cavity. By using sheet gutta percha and building upon this with wax a very true model may be had.

Try the model thus formed in the mouth and see that the edges are close to the palatii muscles and the approximating surfaces well formed. Flask as in vulcanized hard rubber cases. Extreme care must be exercised in selecting the plaster for this work. Avoid the formation of air bubbles. After thoroughly boiling out the wax, and removing the gutta percha, wipe dry and coat the surface in contact with the rubber with finely powdered plumbago, rubbing it well into the texture of the plaster, until a glistening surface results. Make vents clean cut, and posteriorly. Prepare now to pack the flask which has been previously well baked in an oven. Docherty's vulcanized soft rubber proves most satisfactory.

To give increased durability to the hinge of the velum and to the plate imbed in the substance of the soft rubber small platino-gold springs 35 gauge, one-eighth of an inch in width and about 2 to 2½ inches in length, perforated at both ends.

The vulcanizable soft rubber is best manipulated by heating to 230 degrees and then slowly advancing until 270 degrees is reached, retaining that degree for five hours. Cool and remove from the flask.

We have now an opportunity to try our work in the mouth and if any roughness or undue pressure is found to cut this away.

In using knife or razor to accomplish this an irregular surface is invariably the result. This difficulty may be overcome by using a thermocautery and burning away the irregularities, leaving a smooth surface, non-irritating to the sensitive mucous membrane upon which it impinges.

Before taking the impression for the plate burn two cone shaped holes in the obturator on the external surface to act as guide posts in connecting the soft and hard plates together.

Place the obturator carefully in its true position and take impression of the mouth for the vulcanite plate in the usual manner.

Make the clasps strong and wide. Directly over the two points indicating the burnt depressions in the obturator place a piece of 18k. plate with well serrated edges. Vulcanize.



FIG. 2.



FIG. 3.

When the hard palate plate is finished drill two holes through the gold plate passing in a line with the cone shaped elevated points. Through these are passed the bolts that secured the soft and hard portion of the artificial palate together. Make an incision with an oiled razor in the upper ridge of the nasal portion of the soft rubber, and drill two holes through in relative position to the bolts. These holes may be enlarged with red hot wire. Pass your bolts through the holes, retract the cut edges, screw down the nuts of the bolts upon the small washers and your plate is complete. Figs. 2 and 3 show the plate with soft rubber obturator attached.

## The Practice of Dentistry in Japan.

By G. E. SHUEY, D.D.S.

*Read before the Oakland Dental Club, March, 1897.*

Reported by CLYDE PAYNE, D.D.S., San Francisco, Cal.

The practice of dentistry is not as expensive in Japan as here. There are a great many dentists and the people are familiar with dental operations. Quite a number of natives have studied abroad, and some have studied at home under native instructors, and passed the Board of Examiners. This Board is appointed by an official, similar to our Secretary of Interior, and it meets once a year at Koto. I found dentists in almost every town of any size that I visited. It is common to witness a big molar hanging out as a sign and also some cases of teeth in front of an entrance. In the extreme north, I met a great many dentists. I saw some good gold fillings in the mouth. It is very common to notice gold caps on centrals and laterals. That seems to be the prevailing fad in dentistry. There is but one dental school—in Tokio—conducted by private individuals. There are no Government schools.

**Custom of  
Staining the Teeth  
Explained.**

I noticed that staining the teeth is quite prevalent among the married women. When they marry, they stain the teeth black and continue this at all times. I tried to discover the process and was told that they use iron filings, dissolved in a solution of some herb and the teeth are painted with it. It lasts a week or ten days and the application is then repeated. It gives the teeth a very black and glossy appearance. It is said not to affect the teeth, but it gives a very bad odor to the mouth.

It has been generally reported that Japanese dentists can extract teeth with their fingers and that they do not use forceps. I inquired of some Japanese gentlemen and they said they had never heard of it. It is evidently erroneous. The fees are about the same as here. For amalgam fillings, two or two and one-half yen, equivalent to two or two and one-half dollars here. If you change yen into United States money, it will be about one-half, but if used there, the purchasing power is the same as here. I saw a gold filling in a lateral incisor that had cost eight dollars. It seemed to be about the same that we would charge here for an ordinary piece of work.

**Peculiarities  
of  
Climate.**

The climate resembles the Eastern climate, and is not like our California climate. In summer there is considerable rain, the air is hot and everything damp and sticky. Shoes left in a room for a few days will be covered with mold. Clothing left in a dry chest will become musty and covered with mildew. Iron or steel instruments will rust. I took a few instruments with me and left them in Yokohama while I went north. They were wrapped in chamois. On my return I found them so rusted that they were stuck to the chamois and the jointed instruments could be opened only with difficulty. Pen-knives rust over night in the pocket. I saw no porcelain work, but saw one bridge of four teeth. It was not neat, teeth not matched to the natural teeth, and looked very much like the work of a cheap dentist here. There is a great field there for anyone making a specialty of regulating. There is a great deal of malformation of the jaws, and crossed eyes. The general condition of the teeth is only average. Among the poorer classes you see many spaces where teeth have been removed.

There is no class distinction. They have the coolie class, then the merchant and then the farmer. The farmer is higher than the merchant. People seem to meet in a social way and the various classes seem to be in harmony. The coolie (laboring) class is very low. They do all the drudgery. They have very few horses and men do most of the hauling. It is not unusual to see timber and furniture moved through the streets by two, four or six men.

**Curious Mode  
of  
Transportation.**

About the first thing that attracts the attention of a foreigner on his arrival is the Rickshaw. It looks like a gigantic baby carriage with a man standing by. He calls "Rickshaw, Rickshaw!" You select one and the Rickshaw boy trots off at a gait of four or five miles an hour, and keeps it up for hours. These boys are clad very lightly, and keep a cloth around the head, stop, take it off and wipe the perspiration from the body and then wring out the cloth and the perspiration runs in a stream.

In rough country travel, it is customary to employ a push boy also, to push from behind. They also work tandem. If you want to put on style, let them go tandem. It is quite a pleasant way of traveling about town, but for a long distance travel, it is very inconvenient. A foreigner in a Japanese town is a slave to the "Rickshaw" boys. It is almost impossible to go out without having some one to direct you and read the signs. The boys are engaged by the day or hour, or you can contract for taking you to and from a certain place. You can get a boy for seventy-five sen a day. For a single trip, they will charge you twenty-five

or thirty sen. They can be hired by the month for seven or eight yen. You are expected to "tip" the boy occasionally. The natives have a custom of making a present; if you stop at a hotel and your bill is presented, you are expected to pay and to give what they call "tea-money," amounting to almost one-half of that. It is an unwritten law. Those who do not do it are considered very rude.

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## Professional Honesty.

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BY HENRY A. MELVIN, Ph.B., LL. B.

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*Read Before the Stomatological Club of San Francisco, April 7, 1897.*

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Reported by CLYDE PAYNE, D.D.S., San Francisco, Cal.

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Last evening I had what I then considered the good fortune to dine with the worthy President of the Stomatological Club and in the course of the conversation over the meal, I expressed some random thoughts upon professional honesty. Thereupon Dr. Cool, with an assurance worthy of his name, informed me that I must address the Stomatological Club this afternoon upon the subject of professional honesty. I protested but in vain. He persisted in his demands and finally in a weak moment, I yielded and consented. Since then I have been tortured by the fear that some member of the Club, hearing a lawyer discourse upon professional honesty, might relate the story of a lawyer named Mr. Strange, who, upon his death-bed, urged his wife to have inscribed upon his tombstone the simple words: "Here lies an honest lawyer." The wife asked if he did not want his name to appear also upon the headstone; whereupon he replied: "My dear, it is not necessary. When passers-by see the inscription, everyone will read: 'Here lies an honest lawyer,' and at once exclaim: 'That is Strange.'"

Having forestalled someone else in the relation of this ancient and honorable tale, I will now approach my subject, which I will not pretend to treat in a logical or finished manner but simply in cursory fashion and as the thoughts present themselves.

By professional honesty I do not mean the mere commercial quality that impels a man to pay his just debts and to refrain from cheating his neighbor. I mean that higher and nobler spirit which makes the true professional man scrupulous to a nicety, in everything touching professional

honor and personal verity. And at the outset, let me say that I am not preaching a sermon to the members of this Club because I know you do not need it. But I do want to impress upon your minds the necessity of emphasizing the importance of honest and ethical conduct upon students and young practitioners who look to gentlemen of your high standing as exemplars, "guides, philosophers and friends."

**The Temptations  
Which Beset  
Young Men.**

The temptations to stray from the "straight and narrow path" of professional rectitude, which beset the young practitioner in any profession, are more numerous and more strenuous than is generally supposed. When a young man is making a struggle for coffee, doughnuts and an occasional morsel of pie, dollars look very large and the call to professional debauchery generally comes in the shape of seductive dollars. If the young man has moral stamina, aye, if he has worldly foresight, he will realize that in professional life honesty is in every sense the "best policy."

**The Young  
Clergyman.**

If he is a clergyman, the temptation comes, perhaps, in the shape of a suggestion to fill his church by sensational preaching, but a little reflection ought to convince him that such a course will do harm to his people and to himself and will sow the seeds of an eventual odium that will lead to a well deserved oblivion.

I once knew a clergyman in San Francisco who was fond of preaching upon the so-called "social evil." His method was that "realistic" one which makes Zola's works such instruments of moral reform and renders the *Police Gazette* such a valuable family paper. He delighted in taking "slumming" excursions into the vilest quarters of the city and telling in detail of his experiences in his Sunday sermons. As a result of his ministrations more prostitutes have come from the children of his congregation than from those of any other in the city, and he himself has reached a climax in his career so terrible that I will not mention it.

**The Young  
Lawyer.**

In the law, the temptation often comes to the young practitioner to accept employment in questionable causes, wherein he will have questionable clients who will unquestionably expect him to use questionable methods in the prosecution of their interests. A member of our bar—a fellow of naturally good instincts and really fine abilities—once said to me: "I made a fatal mistake at the outset of my career. I accepted employment where the pecuniary returns were quick, although the associations involved were not creditable. Now when I want to rise, when I desire to become a power in my profession and one of its leaders, I find that it is absolutely impossible. The public has become ac-

customed to judge me by my associates and they will not accept any other estimate of me." That fellow did not know as a young man that "honesty is the best policy," but he has lived to learn it in the same manner as the man who, discrediting the common theory that deep water will drown a human being immersed in it, jumped into a deep pond with a stone attached to his feet.

**The Young  
Surgeon.**

To the surgeon, and particularly to the stomatologist, the temptation to be professionally dishonest must be as great and as varied as those presenting themselves to members of the other learned professions, but I am sure the experience and observation

of each of you gentlemen will justify me in the assertion that in the long run, it pays a physician or a dentist, pays him in good coin of the realm, to adhere to ethical principles and unflinching honesty of action.

Once when I was walking with a prominent newspaper man of this city, an eminent physician drove along the street and after my friend and he had exchanged greetings, the former said: "There is my friend, Dr. Blank. When I first knew him he was a poor young physician without money or friends. I went to him and offered him one hundred dollars to perform a criminal operation upon a young girl. I am proud to say that he threw me out of his office. It made me admire the man so much that I began to help him all I could and I flatter myself that I secured for him the patient who started him on his successful career." That young doctor knew the commercial value of being a gentleman and not a quack.

**The Young  
Dentist.**

To the young dentist who sits in his office and waits patiently but vainly for the "footsteps upon the stair" of the coming patient, it must seem indeed hard that Dr. Sneak, who advertises "painless extraction," "full sets for seven dollars," "free consultation," etc.,

has his office constantly crowded with patients, and perhaps the young fellow wonders if it really pays to live up to the highest standards of professional morality. "Why not sacrifice pride and earn dollars? Why not turn out cheap and nasty work for quick returns? Why not extract for the nimble dollar, the teeth that rational practice would save? Why not do a lot of things just a little 'off color' for the sake of coin? I can sow my 'wild oats' now and come back to correct living later on." These and similar observations he makes perhaps, and is near to the border of outlawry. To such a young man when he asks your advice, it is your duty to say that it would be just as sensible for the virtuous mother, the center of the holy love of her family, to envy the painted harlot, as for him to envy quacks of Dr. Sneak's brand. It is your duty to impress upon his mind that plucky persistence brings rich rewards.

**Expert  
Testimony.**

Before closing, I wish to say just a word about the surgeon's relations to the public as I have observed them in court. I do not like to say it, gentlemen, but candor compels me to say that the least admirable traits I have observed in physicians and stomatologists have been exhibited in the trial of cases where experts were employed. I have seen experts testify to the very verge of indecent prevarication to help the cause of their employers. Perhaps the testifying in some cases is the result of zeal rather than of a deliberate intention to falsify, but if the witnesses had been imbued with a true sense of professional dignity and probity, the spectacle of their degradation might have been spared. Another fault of such witnesses is an unwillingness to confess that they do not know everything that can be known of their respective professions. When I get such a witness upon cross-examination, I always feel that the hard lot of a lawyer has its occasional compensations, and that after all there is some fun in life.

I once saw a surgeon of this omniscient class undergoing cross-examination by one of the shrewdest and most sarcastic members of the bar, a man who is himself an anatomist of no small proficiency. The doctor would not confess ignorance upon any subject connected with his profession. When cornered, he would wiggle out of the difficulty with an ingenuity worthy of a better cause. Finally the lawyer said: "Doctor, in what portion of the abdomen do we find the *de gustibus non disputandum*?"

The poor surgeon twisted once or twice in his chair and said: "I can't just describe the location of that muscle, but I could point it out on a *corpus*." That man made himself the laughing stock of the people who heard him, because he was not honest and courageous enough to confess an ignorance that was no disgrace.

**The Highest  
Reward  
of Honesty.**

I have spoken mainly of the mere pecuniary and worldly advantage of professional honesty. In closing I will merely say that there seems to me to be a greater advantage. I believe that no reward can be greater than that of the man who can look back at the close of a long life of professional activity and see there nothing but honest work honestly done, high ideals lived up to, dignity of thought and action and in spite of mistakes, failures and disappointments, activities that arose only from the purest, manliest, most honest motives, for

'Tis the motive enfames, not the beggarly prize;  
The spirit that lives, the base guerdon that dies:  
'Tis the infinite thought, not the perishing fact;  
The heart that conceives, not the outgoing act;  
'Tis why and not what lighten's History's gloom;  
Devotion, not victory hallows the tomb.



## The Practice of Dentistry in Spain.

By LEON F. HEAD, D.D.S., Madrid, Spain.

*Read Before the Central Dental Society of Northern New Jersey, March, 1897.*

Owing to the isolated position of Spain, in the southwest of Europe, as well as to the rather stationary character of her institutions, Spain has not made the progress in dentistry that has been so marked a feature in the civilization of the United States, and of many European countries, during the nineteenth century, and when you consider that all over Europe, American dentists are, as a rule, preferred, you will readily understand that in Spain their services are eagerly accepted. How long this state of things may last is not easy to foretell. Already there are many indications of improvement, but Spaniards in general, although good mechanics, do not appear at present to possess the adaptability for dental work that is found so commonly in the United States. The teeth, speaking of the nation at large, have been greatly neglected, so much so that artificial sets are more in demand than the work of preserving and filling teeth.

It is about ten years since I first went to Madrid as assistant to one of the best and most fashionable dentists in that city, and I was forcibly struck by the absence of that nice regard for the appearance and preservation of the teeth which is so agreeable and marked a feature of American society.

There seems to be no systematic care of children's teeth. Children, as a rule, are taken to the dentist only when they have a toothache, and, if necessary, the tooth is extracted. That generally ends the matter until they become adults, by which time they either belong to that fortunate and rare class whose teeth naturally defy decay, or they are well nigh ready for artificial teeth.

### Requirements for License to Practise.

Madrid has a population of about 400,000 inhabitants, and at present there are not more than six or eight really fine dentists in the city. There is no dental college in Spain, and no facilities for studying dentistry. Yet by some absurd contradiction, a

Spanish dental diploma from the Medical Department of the National University of Madrid, is necessary, in order to practise dentistry in Spain. This diploma is granted after a not difficult examination, passed before three Spanish physicians and two dentists, of course conducted in the Spanish language. The examination consists, first, in making a rubber

denture; second, in successfully extracting a tooth from a cadaver provided for the purpose; third, in answering a few elementary questions upon anatomy and physiology. Lastly, the applicant is tested as to his knowledge of filling and treating teeth, by the dentists. This last portion of the examination would seem puerile and childish to us, but as the knowledge of the examiners is rather limited their questions cannot be very deep. The diploma, however, exacts a very full statement as to the family and birth of the applicant, including his baptismal register, and the marriage certificate of his parents, with such a full testimonial from his parish priest, if the applicant be a Spaniard, or from his Consul, if he be a foreigner, in regard to honesty, morality and good character generally, as ought to make him a happy and proud man for the rest of his days.

Until within a few years the dentists depended for their supplies entirely upon the depots of other countries, and the representatives of foreign houses who bring into Spain large assortments of dental materials.

Now there are in Madrid two small but quite flourishing dental depots, well conducted, where one can always either find what may be wanted, or where he may order the desired article from London or Paris and obtain it with the least possible delay. One of these establishments is conducted by a very enterprising gentleman, M. Colina, who has lately started a dental magazine, which bids fair to be a great help in educating the Spanish dentist. There is no reason why a dental office should not be as well equipped in Madrid as in Philadelphia or New York, because there is an abundant supply of water for all purposes as well as electricity and gas in the streets and houses, prices for service being about the same as in the United States, high or low, according to the reputation of the dentist.

**Characteristics  
and Customs of  
the Country.**

The climate of Madrid is slightly warmer than this, for although the heat is not more intense than ours in the hottest summer weather, it is much more prolonged, beginning in May and lasting until October; for this reason the royal family and more wealthy classes desert the city during a large part of the year.

The social standing of the dentist in Spain is much the same as in this country. A dentist who is properly educated and a gentleman, is everywhere treated as a gentleman and respected by all classes.

Their methods of communication, railroads, cars, etc., are extremely uncomfortable and slow, therefore, although the distances are not great, traveling is comparatively infrequent and undertaken rather from necessity than for pleasure.

The numerous precautions against accidents, though quite effective,

would be ludicrously annoying to an average American traveler; such, for instance, as being obliged to check your baggage fifteen minutes, or, if there be no baggage, buy your ticket five minutes before the stated time of the train's departure. This, it is needless to remark, prevents the passengers from jumping on the trains while they are in motion.

The Mediterranean seaport towns, Barcelona, Valencia and Alicante, are very picturesque and beautiful, but although the climate is comparatively cooler, the general tone of society, and the absence of hurry in the manners of the people are about the same as in Madrid, and the condition of dentistry is not superior.

In going farther north, especially beyond the Cantabrian Mountains you find a better climate and somewhat more progressive population. Many kinds of manufacturing and commercial interests induced by the presence of valuable iron and coal mines, are beginning to occupy the minds of the people.

The scenery is very beautiful and interesting, the mountains sloping in many places gradually to the sea.

Dentistry is everywhere at the same low ebb, indeed in many of the small towns a dentist is a rare object. The people are not wealthy and the prices for dentistry cannot be high.

To me the country is most interesting, likewise the people. They are extremely polite, kind, honest, and hospitable. Their government and institutions leave much to be desired as you are well aware, but the Spaniards at home are very agreeable people, with great instinctive politeness, as I have had occasion to markedly observe during the latter part of my stay, from their studious endeavors to avoid any political topics that might seem unkind or disagreeable to me as an American.





## **Dental Society of the State of New York.**

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### **Special Committee Appointed.**

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At the recent meeting of the Dental Society of the State of New York, held at Albany, May 12th and 13th, the correspondent, Dr. R. Ottolengui read a report, embracing correspondence with the Presidents of the State Dental Societies throughout the country, dealing with the subject of Process Patents, and the advisability of sending a petition to Congress, praying for a statute which would protect dentists in the right to practise all operations possible, without the necessity of paying royalties or license fees for the privilege of serving their patients. Many of those addressed promised to ask their Societies to appoint committees, to co-operate in the projected movement, while practically all approved of the undertaking. After some interesting discussion, Dr. Ottolengui was appointed as a committee to represent the New York Society. Committees from other societies are requested to communicate with him.

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## **Second District Dental Society.**

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### **MARCH MEETING.**

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A regular meeting of the Second District Dental Society of the State of New York was held on Monday evening, March 8th, 1897, at the residence of Dr. Connor, 189 Joralemon Street, Brooklyn, N. Y.

The President, Dr. Houghton, occupied the chair.

The President, in introducing Dr. V. H. Jackson, of New York City, who read the paper of the evening, which appears in the department of Orthodontia in this issue, spoke as follows:

"Of all men in the dental profession, I personally am under more obligations to Dr. Jackson than to any one else, for the simplicity and ingenuity of his appliances. In beauty of action and results, his system cannot be surpassed. If other members will adopt Dr. Jackson's system as I have, and as many other gentlemen in the Society have, I am sure they will also be under great obligations to him."

The following discussion then ensued:

**Dr. Allen.** In case 9, did I understand you to say that you extracted a bicuspid on each side, in order to pull back the six anterior teeth?

**Dr. Jackson.** In Fig. 9 I described that it was used for moving the four incisors, but if it were to be adapted for moving the six anterior teeth, the loop should be opposite the space. If a bicuspid were to be extracted on either side to give room to the six front teeth, the loop should be opposite the space.

**Dr. Hill.** In regulating cases like Fig. 8, do you ever have difficulty with the gum—the tissue swelling very much?

**Dr. Jackson.** The gum back of the teeth must be absorbed as well as the process. If you move the teeth too rapidly, you do not obtain as good a result generally. Frequently I clip off the excess of gum, although I do not really approve of it.

**The President.** I would like to ask Dr. Jackson if he uses German silver entirely.

**Dr. Jackson.** We use German silver, Columbian silver (which has taken a new name recently and is now called platinoid) and spring gold. We recommend the gold in preference to any other material for making these appliances. We are using in practice principally, appliances of German silver and platinoid.

**Dr. Allen.** Can you get the gold of an equal stiffness?

**Dr. Jackson.** No, it is not quite as springy.

**Dr. Hill.** Do you use piano wire any more?

**Dr. Jackson.** I have not used it for nearly three years.

**Dr. Hill.** What is the objection to piano wire?

**Dr. Jackson.** It is liable to corrode, and requires much more attention. The gilding solution which we use on the German silver is very satisfactory, and makes the appliance much nicer. I have not the address of the man who makes it, with me; I will supply it to anyone who wishes to know.

## ITEMS OF INTEREST

**The President.**

Do you use soft solder with the appliance?

**Dr. Jackson.**

Yes.

**Dr. Babcock.**

I would like to ask what flux is used with soft solder. Is it chloride of zinc?

**Dr. Jackson.**

I have experimented with different things, but I came back to the muriate of zinc. Apply the flux just a moment before, and have the metal dry, and there will be no difficulty in having a joint.

**Dr. Allen.**

I have not had a very extended experience with Dr. Jackson's method, but the experience I have had, has encouraged me in the regulation of teeth beyond any other plan that has ever come to my notice. It has made difficult cases very easy. Dr. Jackson, at the commencement of his paper, himself put the best recommendation on his method, in that he says it is simple, that it can be applied without pain, and consequently can be used on the teeth of small children with their baby teeth in position. Hitherto almost always it has been customary to wait until the twelfth-year molars have erupted—at any rate until both bicuspsids have been in position. There are still cases in which that is advisable, but there are two very important considerations that make it necessary often to regulate teeth at the earliest possible hour. One is that teeth move much more rapidly in the young patient.

Another important consideration is that teeth are not only more easily regulated at an early age, but at that age, bone forming much more easily than at an adult age, they do not require retaining fixtures as long as they would later in life. Also, children do not mind wearing fixtures.

**The System  
Applicable to  
Bridge Work.**

There is one point that Dr. Jackson has not touched upon this evening, and that is, the application of his system occasionally to a bridge case—a case like one I had myself some months ago.

A very prepossessing young lady had been unfortunate enough to lose both bicuspsids on one side of the jaw. The molar was sound, with the exception of a couple of small coronal fillings; the approximal face of the tooth was sound and the cuspid was entirely free from decay. I could think of no ordinary plan of bridging it. Finally I used this crib system. I put in two bicuspsids, with a crib coming over the first molar, and a little saddle attachment on the palatal face of the cuspid, just as you have noticed on one or two of the fixtures that Dr. Jackson showed. My piece has been a perfect success. It is a success

in that it shows no gold, there is no display, there are two natural-looking teeth, and it was easily constructed.

**Experience With  
Columbian  
Silver.**

As to the Columbian wire, I had an experience that may warn many of you. I wasted some months in correspondence. Afterwards I personally went to the place, where it was sold, and finally I obtained a very limited amount, about as much as I would get of 14 carat gold, and I paid a dollar for it. My experience is that it is not quite as springy as the German silver. It seems to be a filled-in wire. Dr. McBrier was here, and with one of his furnaces we tested it. It left a very thin outer shell, the center all being burned out. As far as my experience goes, I do not think it has any advantages over German silver. I am glad to hear Dr. Jackson say that he uses occasionally the spring gold wire. I am glad to know that it is springy enough for that purpose.

**Dr. Barker.**

It has been asked where German silver could be obtained. There are two places in New York where they keep a large variety of the wire and plate. One is Montgomery's, 105 Fulton Street, and another is Patterson's, 26 Park Row. I think the German silver plate is sold at about \$2 an ounce; it is really worth about five cents an ounce.

**Dr. Hill.**

There is a great difference in soft solder. You do not want the really soft solder. You want something a little harder, and you can get it at Burnett's, on Fulton Street, Brooklyn, a little package for ten cents containing the soldering iron and a round piece of solder.

**Dr. Jarvie.**

I would like to say a word in reference to the general principles of Dr. Jackson's method. It has certainly revolutionized our methods of regulating teeth. In our office we have given up almost every other class of appliances. The ease to the dentist and the comfort to the patient, compared with the old-fashioned methods, are simply marvelous. I think we all owe a debt of gratitude to Dr. Jackson, and I trust some time he may be properly rewarded, not only as the inventor of this system, but also for his kindness, his good nature and his readiness to help others out of difficulties.

**A Preventative  
for Grating the Teeth.**

Dr. Allen spoke of the different ways in which certain points might be utilized, among them making removable bridges. We had a case in our office a short time ago of a lady who grated her teeth very much at night—so much so that she was wearing down the incisors very rapidly. The teeth had been filled on the approximal surfaces, and she would break the cor-

ners of the incisor teeth. We made gold caps fitting over the bicuspid and molars, and instead of making a large plate, united them with the stiff bar across, utilizing that part of the system. She wore it at night, and it left the incisors free. It is perfectly rigid and firm, although it has been worn some time.

I would like to say a few words about the danger of moving the anchorage. I believe someone asked about Case 8, whether there was not a danger of moving the back teeth forward. In my experience such anchorage will not be often useful, because patients come to us nearly always before the twelfth-year molar has erupted. It is a fact, although not often considered, that if you have a prominent canine, and you attempt to bring it back, using the molar for anchorage, it will draw the anchorage forward, and even if you add to it two more teeth, those teeth will move. Dr. Jackson will probably admit that the molars have moved forward in this case where the models are shown. A large part of the apparent correction of that jaw, has been accomplished by a general collapsing of the back part and the fore part together. The molars and bicuspid have moved forward, and during the operation the twelfth-year molars have come in forward of their normal position, so that there will be no opportunity of returning those teeth to place. It seems to me that this is a serious obstacle against regulating a protrusion, from within the mouth, and it is one of the things that have been more frequently alluded to and less frequently combated than anything I know of in the regulating of teeth.

I also want to say a word about moving the teeth with the head piece. The apparent difficulty of using head pieces and mouth pieces and getting patients to wear them, is over-estimated. I have not been without a prominent upper jaw in my practice for the last seven years. It is the one thing that I like to have more than anything else, although almost all cases sent to me by other dentists are of this class. I make the retreating piece, and the rest is done by the patient himself. I have a little patient for whom I put on a cap and "bit" five weeks ago, and the retainer will go on on Tuesday. I only saw her three times in that space of time. The child is only ten years old, so the teeth have moved very rapidly.

**Dr. Hill.** Do your girls of 12 and 13 years, who are going to school, wear those caps? I cannot get my patients to wear them.

**Dr. Ottolengui.** Yes; if the Brooklyn girls will not do it for you, they will for me. Dr. Campbell, of Brooklyn, sent me a patient, and she not only wore it here in the city, but also in the mountains where she went for the summer.



Dr. Jarvie spoke of a case that he made for night wear, where the patient grated the teeth. I have a case now that is a little different than the one the doctor mentioned. The patient has suffered with necrosis of the superior maxilla, and it was thought that the wearing of a plate at night had tended to bring about the necrosis, as she was in a low state of vitality. I made a little apparatus to attach to the seven lower natural teeth that she had, with a flat vulcanite surface on the upper portion, so when she grated her teeth at night, she could bite on that, and she could sleep with comfort.

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### **The Oakland Dental Club.**

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Reported by CLYDE PAYNE, D.D.S., San Francisco.

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The regular monthly meeting of the Oakland Dental Club was held at the office of Dr. W. F. Lewis on Thursday evening, April 8, Dr. Corwin presiding.

After the disposal of routine business, incidents of office practice were discussed until the arrival of Dr. J. M. Dunn, the essayist of the evening who had been detained elsewhere. Dr. Dunn chose as a subject:

#### **"Constitutional Treatment as an Agent in Developing Perfect Teeth."**

We are often perplexed to decide how to arrest caries in the temporary teeth. I have obtained splendid results from constitutional treatment. Is there not something beyond the mere operations which we daily perform to arrest the disease? Our patients generally frustrate our efforts by neglecting to follow out our instructions. Why is it not just as feasible to develop the teeth as any other organ?

A little girl of six years came to me with the temporary teeth almost entirely gone, and the sixth year molars just erupting. I prescribed lacto-phosphates of lime, giving the patient a 10 oz. bottle, to be taken twice a day at meal times, a teaspoonful being the dose. After the ten ounces were used up, I ordered a rest of from four to six weeks when a similar quantity was prescribed. This is the only treatment I gave, and I presented the patient to Dr. Lewis some weeks ago to show the result of this treatment. Some patients complain about it being disagreeable to take. If taken at meal times, it is not so bad, and is also more beneficial. All the teeth in the case mentioned except the wisdom teeth have now erupted and are in excellent condition. I think but two of the molars are filled,

and there are no other fillings in the mouth. Few of our patients can understand the value of systemic treatment. The fault lies with dentists and physicians in not educating patients to take care of the teeth. We see the results of the ignorance of the physicians in regard to the teeth. From the sixteenth to the seventeenth year the growth of the body is the most marked. The use of hypo-phosphates of lime, lime salts, etc., will render most satisfactory results.

I have had a little experience with good results following this line of treatment. I would like to ask Dr. Dunn if he did not have some trouble from constipation caused by using lacto-phosphates?

**Dr. Dunn.** Only once.

My experience has been that the child becomes very constipated after one week, and the parents would discontinue its use. The family physician would stop it. I would try and get the intelligent mother to have the physician give a laxative. I have stopped for a while as Dr. Dunn does. I removed some soft fillings for a patient, a girl of twelve, and after the lime treatment, I got some permanent fillings to remain in, without recurrence of caries. I think there is a great deal in systemic treatment.

Treatment of children in this way struck me as particularly necessary when I first studied dentistry. I always ask mothers to give the children these preparations of lime. I know a dentist whose teeth were very bad and his wife's teeth had disappeared entirely. He treated them with lime water as soon as they were able to take milk. I saw these children at eight and nine years and the deciduous teeth showed no decay while the permanent teeth which had appeared were healthy and well formed.

I was very much interested in the case which Dr. Dunn showed me. There was a positive exemplification of advantages of the treatment indicated by Dr. Dunn. There was very little decay and the enamel seemed clear, dense and healthy. The entire mouth was in an excellent condition. I think that the time will come when we will go back further and treat pre-natally. I believe in pre-natal influence and I do not see why this treatment, carried on during period of gestation should not be beneficial. It is worth while to take up this treatment and carry it out systematically and methodically. I remember thirty years ago, a merchant brought his boy, aged fourteen, to an office where I was associated, and had all the superior teeth extracted. It seemed a terrible thing to me, almost like malpractice. I believe under some such treatment as designated to-night, those teeth could have been saved. I have been using Phillips' milk of

magnesia. It is claimed that it brings about the same results and is more palatable and easier to take. Add a little lime juice to it and it's a splendid laxative.

**Dr. H. D. Boyes.** In young pregnant women, even if the teeth are in excellent condition, they almost invariably decay rapidly. I have suggested to such the use of a bone builder.

**Dr. S. H. Hackett.** I have seen some of the results of similar treatment. The data of Dr. Dunn is of great value. Often the absence of lime salts in the teeth is due to a lack of assimilation. Dr. G. W. Cool once related a case which he was treating in Guatemala. He treated a girl of fourteen for a couple of years. She was physically deficient. Rather than give up the case, he told her father to take her away for a year and the change was more than he anticipated. Often there is an excess of lime salts where apparently there is a deficiency.

**Dr. M. O. Wyatt.** I agree with Drs. Boyes and Lewis that we ought to go further back than the treatment of the child. A patient of mine whose teeth were apparently without a blemish had three children within a short time and during this time was unable to go to a dentist. After the third, she came to my office and I never saw such teeth. It impressed me with the fact that we ought to look after the teeth during this period.

**Dr. C. Corwin.** Two important facts have been brought out, first, that there should be a supply of lime salts; secondly, to have the patient in condition to assimilate the food. If we are not able to find out we ought to consult a physician. It is very true that a great many mothers are losing their teeth for the sake of their children. If that can be corrected, it will be a godsend to this age. I have often heard physicians say that they expect mothers to lose two or three teeth during this period.

**Dr. W. F. Lewis.** It is well known that the appetite of women during pregnancy is very whimsical and often they do not care to eat that kind of food which builds up. I do not see why the dentist should not talk plainly to his patients. I have no hesitancy in giving such advice as I think they ought to have.





## **"Methods of Correcting Irregularities of the Teeth." \***

BY V. H. JACKSON, M.D., D.D.S., New York.

*Read Before Second District Society in Brooklyn, March, 1897.*

After considering a number of subjects that are worthy of discussion, I have chosen for your consideration this evening, several methods of correcting malposition of teeth in the lower arch, first describing appliances for moving outward instanding incisors and cuspids; second, appliances for moving inward incisors that are too prominent. The appliances to be described are equally applicable for moving the teeth in the superior arch. Each has one or more springs for inducing the desired action.

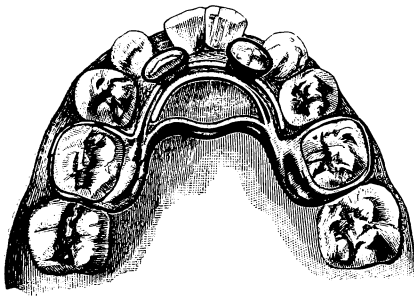


FIG. 1.

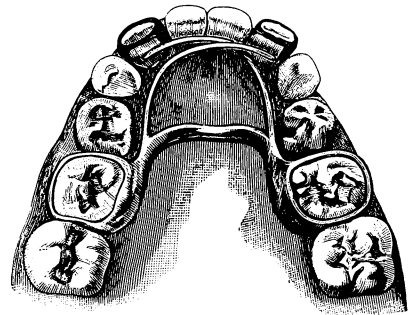


FIG. 2.

I think it is unnecessary for me to state to those that are familiar with the methods that I have previously described, that I prefer the spring pressure to all other means of moving the teeth.

The correction of irregularities of the teeth in the lower arch is receiving more attention from practitioners than formerly; perhaps on account of the more frequent demand on the part of our patients, but probably because of a knowledge of the laws of development of the teeth and jaws on our part, and a more general understanding of the advantages of manipulative interference, and especially while the jaws are developing and

\* Copyright, 1897, by V. H. Jackson, M.D., D.D.S.

the teeth erupting. The advantages which we have of improved appliances is another factor.

The form of the alveolar and jaw tissues are so readily changed in the child, that the expanding of the arch for the accommodation of crowded erupting permanent teeth is easily accomplished and should, in many cases, be resorted to.

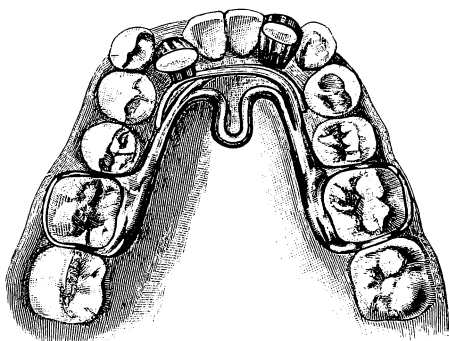


FIG. 3.

If the incisors have erupted too prominently, with spaces between them and the adjoining teeth, or if they are not prominent enough, it is equally essential and desirable that this position should be corrected as early as convenient.

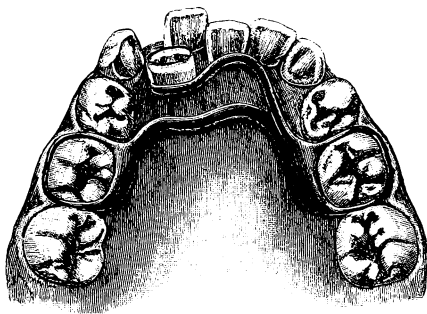


FIG. 4.

The appliances of my system can be as readily used in the regulation of the teeth of the child as the adult. They do not cause any special discomfort or interference with articulation or mastication, and can be removed for cleansing.

There are more young persons presented for treatment requiring the lower arch to be expanded, and the incisors moved outward, than there are cases needing the teeth to be moved inward.

I will describe the case of Miss G. All of the permanent incisors and first permanent molars were erupted; deciduous molars and cuspids were still in place.

Fig. 1 illustrates the position of the teeth in the lower arch, and the appliance used for their correction. The lateral incisors had erupted con-

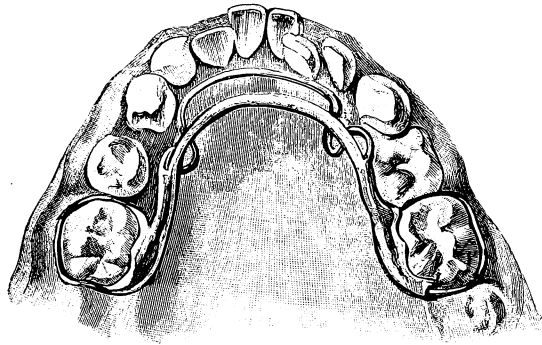


FIG. 5.

siderably back of the centrals with insufficient space for them, requiring that the circle be enlarged, moving outward all of the incisors and temporary cuspids. The superior incisors were also irregular and needed to be moved forward.

The appliance was made by forming a base-wire to follow the lingual

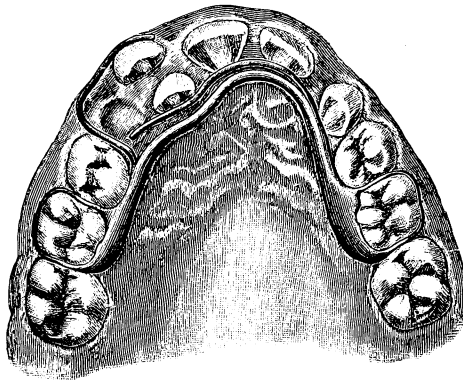


FIG. 6.

curve of the arch, having the front part bent considerably downward, resting as low as could be, without interfering with the action of the tongue; the ends were anchored with "crib-attachments" over the second temporary molars. Two semi-circular springs were attached, one on either side, the ends being soldered with the ends of the base-wire, to the "crib-at-

tachments," each extending forward, in a curve, one crossing below the other to the opposite side of the arch, where they rested on the lingual surface of the irregular teeth. The ends of the springs were left long enough to follow the teeth in their movement, and were held in position with lugs on collars cemented to the lateral incisors.

By bending the springs outward, pressure was caused on the teeth to move them into the proper circle; this expanded the anterior part of the arch as shown by the models. The teeth were moved slowly to position, which was accomplished in about two months. (Fig. 2.) At the same time, the superior incisors that needed to be moved prominently, were moved outward by the action of the lower ones against them in articulation.

This means will not, in all cases, move outward the superior inci-

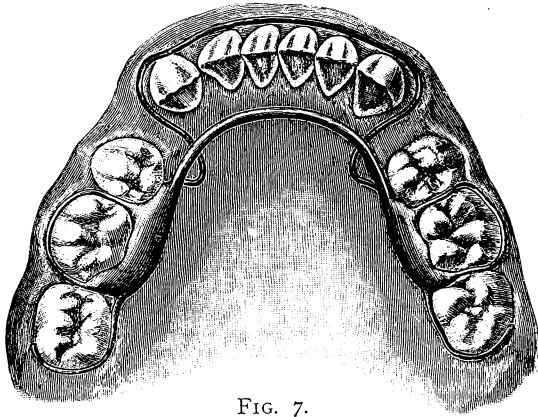


FIG. 7.

sors, without endangering the articulation, or lap, and should not be attempted if the teeth have become firm in their sockets, but can be depended upon only soon after the eruption of the teeth; and in cases where the teeth in the superior arch lap well over those in the lower arch. No change in the appliance was required to complete the operation, and it was used to retain the teeth in position.

Where an even expansion of the anterior part of the arch is required, there is an advantage of having two springs extended forward in this manner, as they can be bent to cause pressure on any particular part or irregular tooth or to cause pressure for moving all of them outward at the same time.

Fig. 3 shows another appliance for enlarging the circle of the lower arch for the accommodation of irregular teeth. In the case illustrated, the cuspids were too prominent with the arch contracted, leaving insufficient space for them. The arch was first expanded laterally with a base-wire

No. 14, Brown & Sharp's standard wire gauze, having formed in it, at the medium line, a U-shaped loop about one-fourth of an inch long, pointing downward, with the ends of the base-wire extending backward and soldered to "crib-attachments," passing over the first molars for anchorage.

The loop in the "base-wire" was opened a little at a time for causing the pressure for broadening the circle. The anterior part of the arch was expanded with two semi-circular springs attached, on either side of the base-wire, with their two ends following the inner curve of the arch to the opposite side, similar to those represented in Fig. 1. The anterior part of the appliance also was in a similar manner retained by cementing to each of the lateral incisors, a collar with a lug on the lingual side. In cases where the arch is to be expanded considerably, the springs should be left long so that they will not need to be replaced with longer ones as

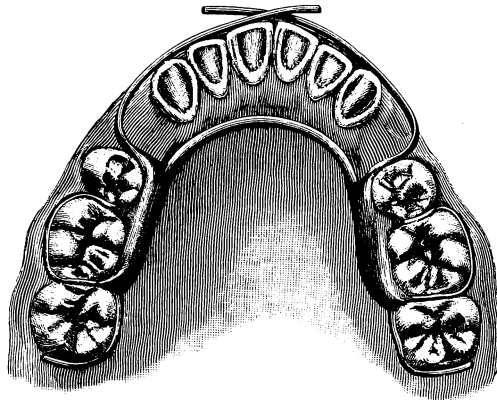


FIG. 8.

the teeth are moved outward. The combined action of the springs attached in this manner, assist the base-wire in expanding the arch laterally.

The appliance illustrated in Fig. 4 is suitable for moving outward, one or more teeth at a time. It is made with a base-wire, and of one spring, a finger spring, for causing the pressure.

I will not detail its construction here, as it was previously described at the Columbian Dental Congress, as were also Figs. 5 and 6.

The appliances illustrated in Figs. 5 and 6 are convenient for expanding evenly the front and sides of the arch, or for moving outward the incisors and cuspids.

We will now consider methods of moving inward the lower front teeth. In Fig. 7 is shown a convenient form of appliance for moving backward at one time the six anterior teeth, the teeth for anchorage including four molars and two bicuspid, the first bicuspid having been extracted



to provide space for their movement. If the wisdom teeth are erupted they also should be clasped for anchorage. The base-wire No. 13 is bent into a semi-circle to conform to the curve of the arch with the ends anchored with "crib-attachments" to the first molars, and wire clasps extending backward to the distal side of the second molars, and if all of the teeth are erupted, a crib attachment should be placed over the second bicuspid and another over the second molar, the base-wire being placed back of the incisors a sufficient distance to permit their movement. A spring wire, about No. 19, is shaped to conform to the labial side of the incisors and cuspids near the gum, passing close to the distal side of the latter, through the space caused by the removals of the bicuspids and bent

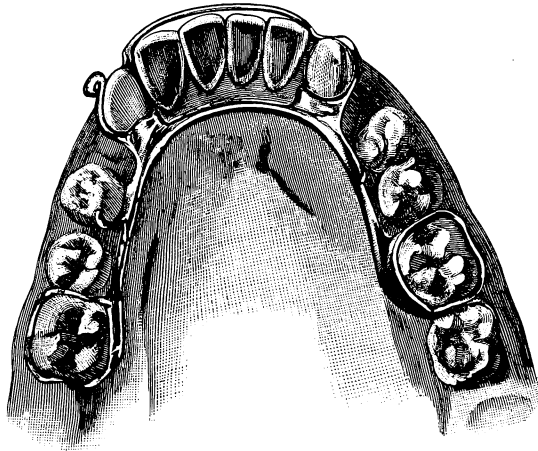


FIG. 9.

into the form of a loop, between the base-wire and the gum, about one-fourth of an inch, with the ends of the springs soldered to the "crib-attachments" with the ends of the base-wire. The desired pressure is caused by bending the sides of the loops toward one another from time to time.

If there are no spaces between the teeth, the curves of the spring should be such as to permit a narrow space between it and the distal surface of the cuspids, to prevent the teeth from being wedged together during movement. Closing the loops in the spring in the manner described, causes more inward pressure on the cuspids than incisors, owing to the natural elasticity of the part of the spring that passes in front of them. With this arrangement the cuspids begin to move before the incisors, which lessens the danger of the movement forward of the teeth used for anchorage, it being understood that after teeth have commenced to move, less force is required to continue their movement. Therefore, with the

spring in this shape, with the principal pressure caused first on only two teeth, lessens the amount of force required to change all of them, and consequently lessens the strain, and obviates to a degree, the danger of the teeth used for anchorage being moved forward.

In Fig. 8 is illustrated another form of appliance that has been used satisfactorily for moving inward all of the incisors and cuspids at one time, and which is equally applicable for moving a less number.

It is made with a base-wire, anchored in the same manner as described in Fig. 7, it being arranged back of the teeth a sufficient distance to permit their movement inward. Long springs are attached to the base-wire or inside, passing over the arch outward to the labial side, through the space caused by the extraction of the first bicuspid, and then curved forward in shape to rest on the labial side of the teeth, each passing beyond the medium line as seen in the figure. The variation of pressure is

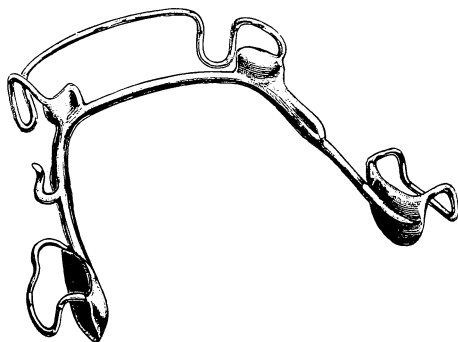


FIG. 10.

caused by shaping the springs to impinge upon the special parts of the circle that it is desired to move, usually first causing pressure on those at the medium line.

Another appliance for moving all of the incisors inward at one time, is made as seen in Fig. 9. Being constructed with wire, with a heavy base-wire, arranged to follow the inner curve of the arch at the gum line, having a space between it and the lingual side of the incisors, to permit their backward movement, with the ends of the base-wire properly anchored with "crib-attachments," including as many teeth as can be utilized for that purpose. A spring wire, about No. 19, is then shaped to the labial side of the incisors, crossing them usually above the center of the line, between the gum and incisive edge, with the ends curved downward toward the gum and then upward to form U-shaped loops, with the ends of the loops resting in front of the cuspids near the gum line, with the ends of the springs extending backward on a line with a part of the

spring that crosses the front of the incisors, and again curves to pass over the arch at the junction of two of the teeth at either side, and having the ends attached with solder to the base-wire. (Fig. 10.)

If the teeth are crowded, requiring the removal of a bicuspid on either side, to cause spaces for their movement, the loops of the spring should usually be arranged opposite the spaces, especially when it is the intention to remove all of the six front teeth backward at one time, having the part of the spring that crosses the incisors extend also across the lateral side of the cuspids. With the latter arrangement the pressure is caused for their movement by closing the loops of the spring from time to time.

If only the incisors are to be removed, with the spring arranged as first described, pressure is caused by bending the mesial sides of each of the loops, resting in front of the cuspids, slightly inward with a flat-nosed plier, the twisting of the wire in the loops causes the desired pressure for their movement.

The figure represents the case of Mr. S., aged 38, with the four inferior incisors closing in front of the superior ones, causing a poor occlusion, the superior ones being considerably worn. The conditions in this case were corrected by making the changes in the spring about once in two weeks, the patient being directed to remove the appliance regularly for cleansing. The regulating and retaining was completed with fifteen visits.

The same form of appliance was used for correcting a similar irregularity for a daughter of Mr. S., aged 16. The movement of the teeth will be facilitated by opening the bite, but if they do not lap much, usually there is no provision made for opening the bite to assist the movement of the incisors from the labial to the lingual side, even though they lap considerably in front of the superior ones.





## **An Ideal Dental Office.**

By GEORGE RANDORF, Berlin, Germany.

In my travels through Europe, I have found one dental office which is so simple, attractive and scientifically correct, as to deserve the name which I gave in the above heading.

It is in Moscow, and its owner is Alexander Vasilovitch Fischer, dentist to the Girls' and also Orphans' Institute of that ancient city. Dr. Fischer was quite prominent at the first Pan-Russian Dental Congress in Nijni-Novgorod, where I had the pleasure of meeting him the first time, and stopping recently in Moscow, I called on him to renew our acquaintance. I did not have to wait long in his neat, but plain reception room, for the doctor soon came in with outstretched hands of welcome, clad in a tightly fitting white linen habit which covered his tall body to his very shoes. After some conversation we entered his office, and then the charm of the "white room," with its simple unobtrusive contents, made me almost instinctively take my pencil and note book, and receiving my host's permission, am able to give the following account of the scene:

### **Description of a Russian Dental Office.**

It is quite a large room, with two windows admitting the north light, but devoid of any vestige of drapery. The walls and ceiling are covered with white enameled paint (washed every week), while the floor is covered with brown linoleum. On the wide window sill in front of the chair were some burs in holders, or in glass receptacles, and other small instruments neatly and cleanly displayed. The chair itself is covered with a light colored oil cloth, instead of plush, showing traces of soap baths administered daily, as the doctor explained, while the upholstering is completely renewed every year. The bracket table—*if such I can call the simple substitute for it*—has a glass bottom which can be lifted for cleaning purposes, and which reflects the minutest particles of dust attaching to it. At the wall space, separating the two windows, stood a plain wooden table, covered with an immaculate marble top, on which I noticed two or three shining glass slabs for cement, and



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DR. ALEXANDER VASILOVITCH FISCHER  
Moscow, Russia.

other necessities just as irreproachable in regard to cleanliness. Near that table on the floor, I noticed an accumulator supplying electric power to the engine, the mouth lamp and the thermo-cautery. Nearest to the other window, was placed a three-legged holder for a kerosene lamp, over which was secured a pôt for water. Thus light and heat were utilized at once, and good petroleum being used, there was no bad smell.

At the western wall, a neatly carved wooden cabinet is located, which serves also as a support for the instrument case—a chaste little cabinet, with sides, top, two shelves, bottom and doors made of glass, the joints only being secured with iron strips and hinges. In this transparent instrument case, one can see rows of the most necessary forceps, filling implements, gold, etc., while the closed wooden cabinet underneath is utilized for teeth, reserve instruments and materials in general. Pointing to a trifle of dust taken from between the carvings on this latter cabinet, this Tolstoi in dentistry observed, with but slightly concealed disgust: “You see, these fine carvings only serve to hold the dust, and I have already decided to change it for a simpler stand, like that table. I have also decided to change the handles of these two filling instruments from wood to aluminum, to make them the same as those others, since wood cannot be thoroughly cleansed by boiling. Thus the last ornamental things will be driven out of my office,” added the doctor, with the accent of an apostle in his voice.

Along the southern wall is a sofa, as plain as the dental chair, on one side of the only entrance to the office, and on the other is a small sterilizer in which the instruments are given a bath in boiling water as often as necessary. There is also a plain washstand, a combination of wood and tin. The eastern wall was free from all incumbrances, and reminded one of the sanctity of a temple.

**Curious  
Treatment  
of Patients.**

It may be of interest to add that every patient—male or female—upon entering that ideal room is at once enveloped in a snow white apron of considerable size, which is tied around the neck. This brings patient and operator, outwardly at least, into full harmony. Dr. Fischer told me that some patients, seeing him for the first time attired in a butcher-like cloak, are horror stricken, and exclaim: “You are not going to slaughter us, are you?” Soon, however, they comprehend the real object of it all, and begin to appreciate the elaborate and yet simple precautions, which serve to insure the welfare of patient as well as dentist.

When I asked this dental prophet what were the guiding thoughts influencing him in introducing this new departure in furnishing his dental office, he said that it was a result of his study throughout Europe.

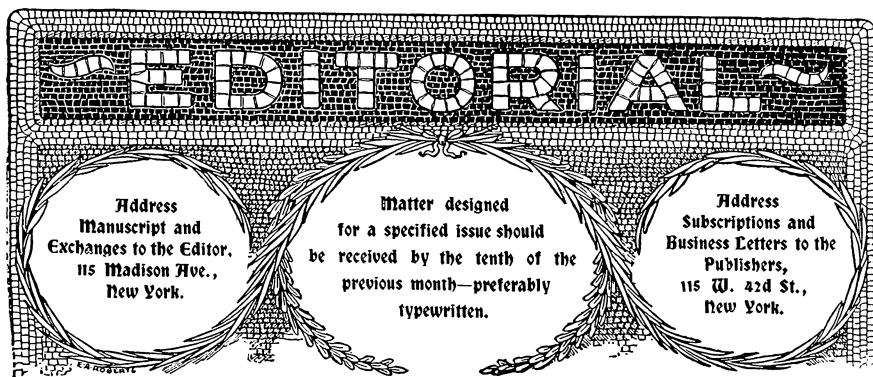
There he saw that "luxury covered a great deal of dust," and when he returned from his travels, he decided to preach simple cleanliness, by means of aseptic surroundings. He has already found one adherent who has arranged his office in similar style, and he believes that his thoughts will soon take root among his professional brethren in Moscow and elsewhere. The fact that he has been compelled to discontinue his journal in which he preached the new doctrine, for lack of readers, does not discourage him in the least.

Dr. Fischer is also of the opinion that "Western Europeans" are misjudging Russia, when they think that "anything" is good enough for its inhabitants. In dental matters, he thinks that state of affairs has long past and gone. "Our public," concluded the eloquent innovator, "has a well developed, even elegant taste, and demands artificial teeth of the finest texture and most exquisite shade."

I did not have time to inquire for the doctor's laboratory, but the above sketch will no doubt stimulate many into asking themselves, why a dental office should be arranged with almost the sole view of exhibiting a luxurious appearance, and not more like those of the medical profession in general, with hygienic and aseptic safeguards which insure healthy comfort and scientific cleanliness.

May the above example of severe simplicity, inexpensiveness and cleanliness, remind my American colleagues of the great responsibilities of their vocation, and may they by introducing reforms in the right direction, deserve the highest respect as well as the gratitude of their fellow citizens whose welfare, and sometimes dear life itself, is entrusted into the hands of the dentist.





## Process Patents.

In an editorial in the March number of this magazine, the general subject of copyright and patent, in its applicability to dentists, was somewhat exhaustively considered. In brief it was urged that both copyright and patent are legitimate and righteous, with the exception of that class of patents which protect a method or process of treatment. The final proposition was as follows:

“The profession should now unite in a request to Congress for the passage of a law prohibiting the granting of any patent upon any method or process of treating or curing human diseases, or ailments.”

In furtherance of a movement to this end, which has now been initiated by the Dental Society of the State of New York, it becomes simpler in writing of my purpose, to use the personal pronoun, for which, under the circumstances, I trust I may be forgiven.

For several years I have had the honor to be the correspondent of the Dental Society of the State of New York. This is an office peculiar to this Society. The incumbent is expected to correspond with prominent men throughout the country, in connection with some topic of vital interest to the whole profession, and, by compilation from the replies received, to formulate a report comprising the consensus of their expressed opinions. This year I addressed a circular letter to the President of every State Society in the Union, calling attention to the editorial above cited, and requesting an opinion thereon. With scarcely a dissenting



voice the Presidents gave approval and promised to bring the matter before their societies, and to ask for the appointment of committees.

The only person, not a President of a State Society, to whom a copy of this letter was sent, was Dr. J. N. Crouse, of the Dental Protective Association. No reply was received from him, but fortunately he was present at the Albany meeting when the report was read, and opened the discussion thereon.

**Opinion of**  
**Dr. J. N. Crouse.** Dr. Crouse admitted that it would be a "grand good thing" if Congress would thus alter its patent laws in the interest of the dental profession, but he expressed the opinion that the object would be attained at about the time of the arrival of the long delayed millennium. He further expressed the view that under existing laws, no patent can be obtained upon any process of treating the human body, and that any patent which would bear such a construction would be invalidated when tested in a court of law. He was asked then to explain the necessity for the continued existence of the Dental Protective Association, which avows the purpose of fighting dental patents. He explained that prior to the formation of the Dental Protective Association, men took patents upon insufficient grounds, and harassed practitioners into taking out "licenses" to practise the protected methods. But, he claimed, "these licenses were valid merely as voluntary contracts, and were in no sense privileges guaranteed to the patentee, by his patent." The Dental Protective Association has made it impossible for holders of such patents to frighten the members of the Association into signing such license contracts, because it stands ready to aid the dentist in resisting the collection of the license fee. Moreover, it has fought legally to prove the invalidity, and has proven the invalidity, of many patents. Summing up, Dr. Crouse denied that there exists any necessity for the passage of a specific statute in relation to dental patents. In this Dr. Crouse is at fault as will presently be shown.

Before passing from the subject of Dr. Crouse and the Association which he so ably brought into existence, it may be opportune to call attention to one fact. There are about thirty thousand dentists practising in this country. About three thousand have joined the Dental Protective Association, paying the membership fee of ten dollars. The fund thus

raised has been entirely expended, with the result that the Association has benefited not alone the three thousand members, but the entire thirty thousand, who are enjoying an immunity from annoyance, which would not be theirs had the Dental Protective Association never existed. It would be a disgrace to the honor of the dental fraternity, were it true that twenty-seven thousand men are content to remain indebted to the three thousand who have already paid the ten dollar membership fee. The truth probably is that the majority of those who have not joined, have been merely negligent. It is to be hoped that every non-member who reads these lines, will promptly remit, as the Dental Protective Association is now in debt, and money must be forthcoming immediately. If the non-members do not pay up, the members must be assessed another ten dollars, which would scarcely be just.

In connection with the subject of process patents I have had a most interesting correspondence with a member of a firm of patent lawyers of Washington. My correspondent also takes the ground that "no method of treating disease is a proper subject for patent," but has been forced to admit that such patents have been granted, though they have been invalidated when tested by resistance in court. At this point let me formulate my first dogma:

"If it be true that under the present statutes a court would hold as invalid, any patent covering a method of treating the human mouth, then it is time that the statute should be reconstructed, that it may be so intelligible to the men in the patent office, that in future no such patents shall be granted. It is an injustice that it should be obligatory upon the dentists to prove the invalidity of patents which cannot withstand legal resistance."

In referring to certain tooth-crown patents which were declared void by the court, my correspondent uses the following significant language:

**Opinion of a  
Patent Attorney.**

"In the decision of the court in this patent no mention was made of the question whether the subject-matter of the patent is one to which the law contemplates affording protection, and we presume the defense was confined wholly to the question of novelty and invention, the evidence adduced having no doubt shown all the steps in the operation to have been old, but performed with more celerity. It is to be regretted that the defendants did not ask the court to set the patent aside on the broad ground of its not being the proper subject mat-

ter of a patent; had this been done I feel sure that a ruling decision would have been secured that would be of value to your profession."

Unquestionably an oversight was made. It would be of inestimable value to our profession, to have obtained a ruling from a judge to the effect that a "process" of this nature, involving work upon the human mouth as a part of the method, is not a "process" within the meaning of the patent laws.

The letter continues as follows:

"In one of the decisions, however, I notice that a patent issued to Dr. Low, March 15, 1881, was upheld, but the claim of this patent can hardly be said to relate to those methods which we are now discussing. The claim of that patent covers a method of inserting and supporting artificial teeth, which consists in attaching said artificial teeth to continuous bands fitted and cemented to the adjoining permanent teeth, whereby said artificial teeth are supported by said permanent teeth without dependence upon the gum beneath.' This you will perceive, while drawn up in the form of a *method*, really covers a mechanical contrivance, and is probably just as much the subject matter of a patent, as an artificial limb is. That which he invented consisted not so much in a method of procedure, in performing the mechanical part of the work, as it did in the means for supporting the artificial teeth free of the gums and from the two adjacent natural teeth. I cannot see but that improvements in the mechanical devices for attaching artificial teeth and limbs are proper subject matter for patents, even though in peculiar cases the invention is best particularized by drawing the 'claim' in the form of a 'method' and even though the direct result of the devices be to cure some disease or ailment.

"You refer to the large number of patents relating to dentistry and covering methods of curing diseases. I believe, however, that all the valid patents in this line will be found to cover processes of producing some mechanical device or thing and attaching it to the teeth. These can hardly be called methods of curing diseases, although the *result* of the mechanical devices attached to the teeth may be to cure pain and decay."

**The Foregoing  
Opinions  
Discussed.**

The above is quoted at some length, because it is the well-expressed view of a man thoroughly acquainted with the subject, and competent to give an opinion of value.

An analysis will show the confusion which exists in relation to the "process" patent in its applicability to dentistry. This attorney tells us that he finds a similarity between a method of constructing and attaching artificial teeth and a method of constructing and attaching artificial limbs. There is no contention, on the part of the dental profession, that a patent shall not be granted to a man who,

in a special manner, constructs a tooth crown and furnishes the same to the dentist for insertion in the mouth. A procedure of that nature is exactly analagous to the construction of an artificial limb which is sold to the surgeon, and by the latter supplied to his patient. But a patent which would restrain a surgeon from himself constructing an artificial limb for his patient should not be granted, and in accord with the same principles no patent should be granted upon a method of constructing a crown or a bridge, except where the crown or bridge can be manufactured and sold to the dentist. Where the dentist must himself engage in the construction of the crown or bridge, he should not be hampered by patent restrictions.

WHATEVER HE CAN ACCOMPLISH FOR HIS PATIENT WITH HIS OWN HANDS THE DENTIST SHOULD BE FREE TO UNDERTAKE.

This brings us to the necessity for a final analysis of a "process." Patents are granted not only upon articles of manufacture, but also upon methods of manufacture. These latter are classed as "processes." Thus, a man may invent a peculiar screw, and obtain a patent thereon. This patent will protect him in the right of manufacturing his peculiar screw for a stated term of years. No person, except with his permission, may manufacture for sale the screw which he has invented. Upon the expiration of the term of this patent, let us imagine that from experience in the manufacture of the screw, he is finally enabled to originate a method of manufacturing the screw. He may obtain a patent upon this method, or "process." Thenceforth, the patent on the screw itself having expired, any person may make and sell the screw, but under the restriction of his "process" patent, no person may make the screw in the stipulated manner.

This is a statement of what may be considered a process patent, bereft of complexities. In connection with such a "process" patent it is to be observed that it is essential that the claim shall describe the several steps which, conducted consecutively, make up the process. Any deviation from, alteration in, or addition to the prescribed formula constitutes a new method or "process," and if such deviation from, alteration in, or addition to the formula can be proven no claim for infringement can lie. Let us test the patented dental "process," in this manner.

Does experience teach us that the construction of a bridge denture

can be invariably dependent upon the same consecutive steps in a prescribed formula? Is it not a fact that in every case the operator is called upon to utilize his own ingenuity, adding to or taking from the detailed requirements of the process, in order to attain the best result for his patient? There can be but one reply, and thus at once, these patented "processes" which apply to the individual practice, of the individual dentist, cannot be, or should not be included in the list of "industrial art processes."

Broadly stated, the statute should stipulate that NO PATENT SHOULD PROTECT A DENTAL METHOD OR "PROCESS," THE SUCCESSFUL APPLICATION OF WHICH IS, OR MAY BE, DEPENDENT UPON THE INDIVIDUAL SKILL OF THE PERSON USING THE PROCESS. The protected "process" should be as complete as the protected manufactured article. The person who pays for the enjoyment of a patented article, or "process" should find no necessity for utilizing his own inventive faculty, in order to fully enjoy his purchase.

Dr. Crouse has pointed out that the possession of a patent on a dental "process" does not entitle the holder thereof to exact a license fee from those who use the method; that it is a voluntary contract which binds the dentist. This may be true, but undoubtedly the contrary opinion is prevalent, and the idea that the license is exacted under patent rights, is certainly promulgated by the holders of patents.

To summarize, therefore, it should be our purpose:

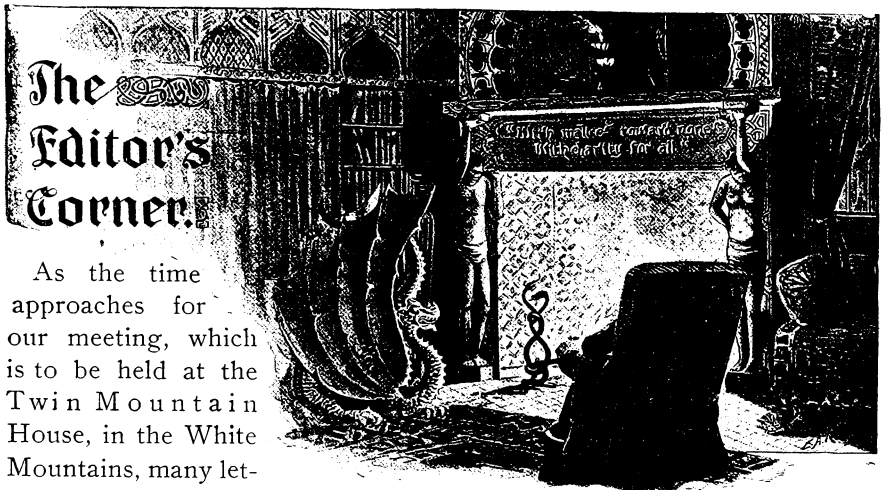
First. If the present laws forbid patents upon dental "processes," to have the statute revised so that its language will not need a court of law as an interpreter.

Second. If the statute does allow such patents, to ask for a specific statute denying the right of patent upon any "process" which is dependent upon the skill of the operator for its successful application.

Third. In any event to ask for a statute stipulating that no holder of a patent shall exact a royalty or license fee from any legal practitioner of dentistry or medicine.

The dental profession is quite willing to pay for what it buys, but we object to paying for the right of doing what we do.

RODRIGUES OTTOLENGUI.



## The Editor's Corner.

As the time approaches for our meeting, which is to be held at the Twin Mountain House, in the White Mountains, many letters of inquiry as to

details are received in the morning's mails. To the writers of these, as well as to all intending visitors, a general outline of the programme may now be given. First, in regard to the essays for which prize medals were offered:

### The Essays Which Will be Read.

More candidates for the medals, have sent in manuscripts, than were expected. It is a fact, well known to those who have had experience with literary prize competitions, that old writers seldom, if ever, submit their work, well knowing that such competitions are intended to encourage new writers, rather than to merely reward those who have already proven their ability. Judging by the cities from which the essays for our competition, have been mailed, this will prove to be the case in this instance, as it has in others. Nevertheless, whether the writers prove to be well known men, or novices, the papers attest the fact that much care has been given to their preparation, and the result is that the papers finally chosen will prove most acceptable from a practical as well as scientific standpoint. Just which these may be, or by whom written cannot be known until the manuscripts are returned by the judges, who now have



AMMONOOSUC RIVER, NEAR TWIN MOUNTAIN HOUSE.

them under consideration. The full detailed programme, therefore, cannot be published before our next issue.

In addition to the five papers to whose authors the prize medals will be awarded, we have arranged for essays which will be read by Drs. M. L. Rhein, of New York; Dr. Carl Theodor Gramm, of Chicago; Dr. C. Allan Osmun, of Newark, and Dr. F. T. Van Woert, of Brooklyn. The full titles of all of these papers will be published in next month's issue.

It may be announced at once, however, that Dr. Van Woert will discuss the uses of the X ray in dentistry. He has kindly consented to take his entire outfit up to the mountains, and we will not only have a most interesting paper upon this engaging subject, but he will illustrate his arguments with numerous lantern slides, and will practically demonstrate the new art, sciagraphy, or photographs taken with the X ray. Moreover Dr. William James Morton, the son of the Dr. Morton, who first demonstrated the practicability of anaesthesia in capital operations, and who himself was one of the first to make practical utilization of sciagraphy as an aid to medical diagnosis, has kindly promised to be present and open the discussion of Dr. Van Woert's paper, and will illustrate his remarks with a large number of the most interesting lantern slides from his collection.

**Arrangements  
for a  
Special Train.**

On returning from the meeting of the New York State Society recently, about twenty-five dentists took seats in the same parlor car, and it was noted that, though entitled to twenty-five seats, they occupied during almost the entire trip, not more than half

that number. Dentists when together, are communicative and gregarious, and the widely separated chairs in a parlor car, revolving but never approaching one another, offer little opportunity for conversation.

With this fact so lately exemplified, we have decided to engage for the

convenience of our guests, a sleeping coach, instead of the usual parlor car. The sleepers afford most comfortable accommodations for daytime



TWIN MOUNTAIN HOUSE AND NORTH TWIN MOUNTAIN.

traveling, and actually invite sociability, by arranging couples *en vis a vis*. Thus we anticipate that during the trip up to the mountains, many of the unsolved problems of our profession will receive warm and interesting discussion, each section being a sort of limited debating society. The following will be the itinerary of the train: It will leave New York on the morning of Saturday, July 24th, at 9 A. M., arriving at Twin Mountain at 7 P. M.

The time of leaving intermediate points will be: Bridgeport, 10.18 A. M.; New Haven, 10.50 A. M.; Hartford, 11.48 A. M.; Springfield, 12.37 P. M.; Greenfield, 1.37 P. M.

To all who decide to go with us to the White Mountains, a cordial invitation is extended, and all who will take this particular train either at New York or *en route*, are invited to accept complimentary seats in our special car. It is possible that the party going by this route and train will exceed the capacity of the coach. We will be indebted, therefore, if all intending to join our party, will notify us as soon as possible, so that if necessary, additional seats may be secured, either by chartering a second car, or by engaging parlor car seats in the adjoining coach. This invitation is intended to include the ladies, as well as the dentists themselves.

We desire further to announce that on the last day of the meeting a complimentary banquet will be served, to which all the visitors at our meeting, both ladies and gentlemen, will be invited. In this way we hope to complete the *entente cordiale* which we hope to see engendered by the sociability which will undoubtedly prevail.

It is not uncommon to have knowledge, yet fail to make practical use of it, until on some occasion of special importance, necessity awakens the sluggish brain, and a new method is attempted, while the operator says to himself: "Why have I never done this before?" In a recent instance, an experience of this nature brought with it a result which is worthy of record, for the benefit of those who may not yet have "thought of it."

Sometimes after an application of arsenic, the patient returns, and though less than twenty-four hours may have passed, the tooth shows unmistakable signs of discoloration. First we may ask how this is to be explained. Arsenic is a most powerful constrictant, and when applied to a pulp, in which the capillaries are engorged, it is conceivable that this violent constriction causes an actual rupture of the small blood vessels, so that the blood is emptied against the walls of the pulp canal, and passes into the tubuli of the dentine, producing the pink or brown color, observable when the discoloration originates in this manner.



In the case cited, the patient was a young and handsome woman, no small portion of her beauty depending upon the regular rows of lustrous large teeth, which showed conspicuously and to advantage whenever she smiled. Unfortunately the beautiful creatures in this world are not always most generously endowed with wisdom, Nature perhaps feeling obliged to maintain a just balance. So this young woman, though fully appreciative of her physical endowments, was careless in the preservation of them, until all her latent energies were aroused by such an ache as brought her to the office without breakfast. Examinations disclosed an exposed and bleeding pulp in a cuspid. In this instance cataphoresis proved to be—but that is aside from the main issue. Arsenic was applied. Equal parts of arsenious acid and anhydrous crystals of cocaine, made into a paste with oil of cinnamon. The pulp died comfortably and quietly, but when the patient returned to the office on the following day, among her "row of pearls," there appeared one "tomb-stone," a dark granite monument, as it were, to that sacrificed pulp.

At last she appreciated the importance to her beauty, of that now disfigured tooth. "If you cannot make that tooth white again," she cried, literally cried, "I shall never smile again." This seemed so dire a threat against the peace of mind of her many admirers, that unusual mental effort was compelled. The pulp was readily removed, fortunately without tearing, and the copious hemorrhage which followed was finally arrested with hot water. The dam, of course, was in position, and the canal was packed with cotton saturated with caustic pyrozone (25 per cent. sol.) and covered carefully with hard gutta percha. This was left in for twenty-four hours, at the end of which period the tooth was absolutely restored to normal color, and was therefore promptly filled, no subsequent discoloration having thus far occurred. The success of this bleaching, depended upon the prompt application of the decolorizing agent, before the blood, which had entered the tubuli by extravasation had become coagulated. An important moral, which may be deduced from this lesson, is to the effect that when treating anterior teeth with arsenic, especially where the capillaries are probably engorged, the arsenical dressing should not be allowed to remain in place for more than one day, if so long.

Another difficulty surmounted, which may be worthy of relation, was a case of a lateral incisor, affected with pyorrhoea, in which it was necessary to devitalize and remove the pulp, as a necessary step in the cure of the disease. The tooth being sound externally, and exceedingly sensitive both to pressure and to the cutting of the bur, the question was, how to apply the arsenic. A portion of the enamel, at the palatal aspect was ground off, exposing the dentine, the patient declining to endure further cutting. Again cataphoresis proved—but we will let that pass. A piece

of thin platinum was shaped to fit around the palatal surface of the tooth, passing between the teeth at each side, and burnished to place. To the surface of the exposed dentine was applied the arsenical paste above mentioned, and the platinum backing, smeared with oxy-phosphate, was placed in position and held by several wraps of floss silk, well waxed. This remained in place undisturbed, and when removed the dentine was easily drilled and the pulp extirpated without further treatment. Had a

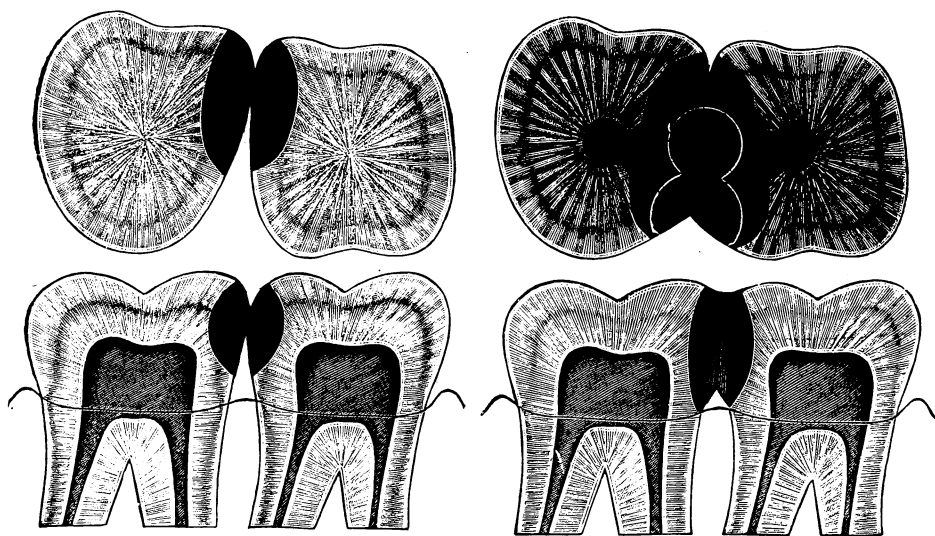


FIG. 4.

FIG. 5.

second application been needed, it would have been easy at this sitting to make a cavity for its reception.

**Correction of an  
Error in the  
May Issue.**

In the last number of *ITEMS OF INTEREST*, there appeared an article entitled, "The Treatment of Interproximal Spaces." The chief point in the argument advanced was that contact in contours of extensive magnitude, where a recession of the gum has occurred, should be of such a nature as to exclude food from passing beyond the knuckle, and becoming lodged under it, and so passing under the gum tissue.

Illustrations were used to make more clear the method of procedure which was advocated. Unfortunately, the engraver did not correctly follow the original drawings, which were submitted to him, with the result that two or three of the cuts were inaccurate. Corrections were ordered, the corrected blocks to be delivered directly to the printer to save time, and avoid further delay in the appearance of the magazine already late,

because of the large number of illustrations. Unfortunately, the article as published contained one cut which had not been corrected, the new block having reached the printer too late for use.

As this error occurred in my own article, I had intended that no allusion should be made to it, but so many letters have been received, asking for an explanation of the somewhat misleading illustrations, that it becomes necessary to publish proper illustrations. Fig. 4 is reproduced here exactly as it appeared on page 324. The lower drawings show restoration of normal contour, and a space is seen between the knuckle and the line which indicates the receded gum. In the upper half of the figure is shown a cross section, which makes plain the manner in which the food passes between the teeth, despite the fact that near the buccal aspect there is a good contact; this because of there being a V-shaped space towards the palatal side.

In Fig. 5, we find these same cavities filled so as to prevent the lodgment of food. In the lower half of the figure, we see that the interproximal space is reduced to a minimum. In the upper half of the figure, which is here correctly shown, and which was wrong in the last number, it is seen that the contact now is so extensive that the V-shaped space at the palatal aspect is practically closed up.

It may be pertinent to mention here that during the discussion which ensued, after the reading of this paper, one of the gentlemen present expressed a doubt of the feasibility of this method. Since the meeting, however, I have had occasion to make the largest restoration of this kind within my experience, and I have sent this patient to the gentleman's office in order to convince him of the possibility of doing that which was advocated. Since the appearance of the last article, I have been requested to demonstrate this method at a clinic before the Southern Dental Association at Old Point Comfort, and I have agreed to do so.

**How to Obtain  
Good Dental  
Illustrations.**

In this issue, we publish two articles dealing with the subject of cleft palate. Both are illustrated. The illustrations for Dr. Kingsley's article are wood cuts made from accurate casts furnished by the author. The illustrations in the second article are half tone reproductions from photographs sent by the author. A comparison at once establishes the fact that to obtain the best results, the dentist must first furnish accurate models, and second, these must be reproduced by the wood cut process. The half tone method is inadequate, especially where the original models are defective. After all, the whole success of dental illustrations depends upon the skill of the dentist in making the originals, upon which the pictures must depend.



## **Internal Caries.**

By DR. W. H. CRAIG, Oakland, Cal.

In ITEMS OF INTEREST, page 150, I find an account of two cases similar to one which came under my notice about ten years ago.

In examining a lady's tooth, I found a minute cavity in the point of a superior cuspid. Attempting to bur out the cavity preparatory to filling, the enamel came away, separating at the neck, and leaving the dentine adhering to the root. The dentine was soft and soon became very painful. The root was also soft and was extracted. The enamel was unbroken, was white and very thin.

In thirty years' practice, this has been the only case of the kind which I have seen.

## **Pericementitis From Phosphoric Acid.**

By DR. STEWART J. SPENCER, Harriman, Tenn.

The Good Book says, "Confess your faults one to another."

That others may learn by my failure in a late "Incident of Office Practice," I obey the injunction of the Apostle.

I had lately read somewhere that a dentist secured stronger adhesion of his oxyphosphate of zinc fillings, by first painting the walls of the cavity with the liquid.

I thought this a capital idea, and having a root to crown (a good, healthy root, which for ten years had been kept sweet and dry by a gold canal filling), I applied the method.

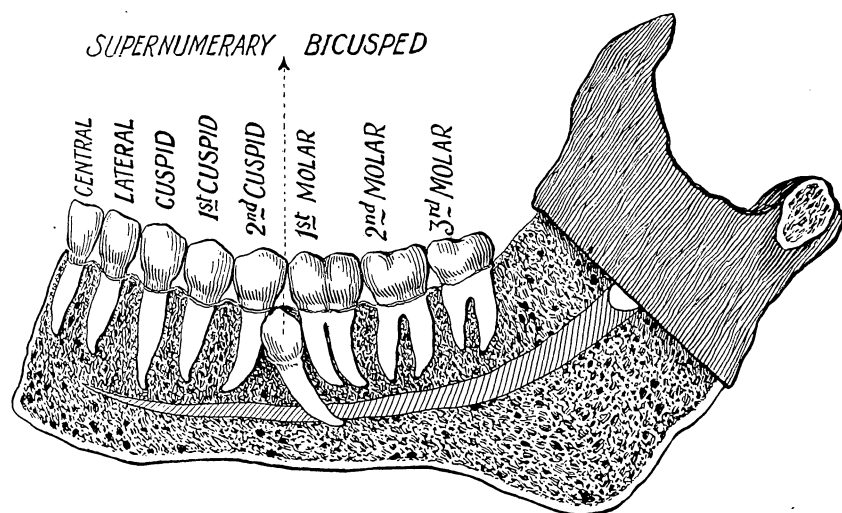
Result: A raging pericementitis, which lasted several days.

The acid had evidently penetrated the foramen before the filling material had a chance to absorb it.

## Eruption of a Third Bicuspid.

By JAMES T. GWINNER, D.M.D., Memphis, Tenn.

Supernumerary bicuspid are not at all common, and the case in question presents one in which the supernumerary tooth departs from the general rule even in its position. Professor Guilford in writing of this class of anomaly, in the *American System of Dental Surgery*, says that "the extra tooth will generally be found to be inside the arch and lying close to the two in line." This tooth, on the contrary, was directly in the line of the arch, the cusps partially imbedded in the cementum of the root of the second bicuspid, with the root lying obliquely in the alveolus,



the apex resting against the anterior root of the first molar. Located in this manner, the tooth was not exposed to view at all and was not discovered till after the extraction of the second bicuspid.

The patient, a working girl, twenty-three or four years of age, complained of soreness in the second bicuspid and said that that tooth "seemed longer than the rest." Upon examination the tooth was found to be slightly loose, elongated, and sensitive to percussion. The tooth was not decayed at all, nor did the gums or alveolus show any signs of an abscess. A treatment with counter-irritants to reduce peri-dental inflammation was made, and the patient dismissed. The next day she returned and insisted on having the tooth extracted, the pain on that side of the mouth having become quite severe. Not only the bicuspid, but the ap-

proximating molar and first bicuspid, and the region around them were very sore.

The patient absolutely refused to submit to further treatment, and the bicuspid was extracted. The socket was washed out with warm water, and it was then that the extra tooth was discovered, a point of the buccal cusp projecting into the socket. On the root of the extracted bicuspid, close to the neck, a marked depression could be seen where the cusp of the supernumerary tooth had been imbedded and was gradually forcing the bicuspid out in its effort to erupt.

A peculiar feature in this case is that the presence of the un-erupted tooth caused no trouble till the twenty-third year of the patient's life. The tooth has undoubtedly been fully developed for the past ten years, and why it has not tried to erupt before is puzzling. Even with the root of the second bicuspid as an obstruction, why did it not cause the same trouble ten years ago that it has now, for it is only reasonable to suppose that the conditions then were exactly the same? Possibly if it had been so located as to come through on the inside of the arch, it would have been long ago in the position usually occupied by a tooth of this kind. It is now very nearly fully erupted in the space left by the extracted tooth, and is a well developed, perfectly formed second bicuspid.

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## **Impressions for Partial Plates.**

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By DR. L. E. JENKINS, Fredericktown, Md.

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It is often troublesome to find a cup to fit the mouth, when there are only a few teeth left, and perhaps, scattering. For years I have been following this plan:—

I first take impression with No. 2 modeling composition, and while warm, trim out all the impression of the teeth, as well as part of the entire impression, undercutting around rim so that the plaster will not pull out. Now, I have a cup that fits the mouth exactly. When ready, fill about half full of plaster and press home, being careful to press up back part first, which should always be done in taking plaster impressions, that the surplus may come forward instead of choking the patient. Hold steady until it sets, and you will have a perfect impression, which you can remove without breaking nine times out of ten, if careful.

## Experience with Cataphoresis.

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By NELSON M. CHITTERLING, D.D.S., Bloomfield, N. J.

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Under "Incidents of Office Practice," I would like to relate some of my experiences with the Cataphoric Battery. I have been, I think, very successful, both in obtunding sensitive dentine and in reducing the length of time in applying current.

Case I. Young lady presenting sensitive cavity in cervix of upper lateral incisor, so sensitive that the pressure of her tongue could not be borne. With two cells and the current controller at ten, thirteen minutes sufficed to render cavity absolutely without sensation.

Case II. Cavity in cervix of upper lateral was anaesthetized in *four* minutes by use of six cells, and excavated without sensation.

This case was unusually sensitive, and the patient said that she was very susceptible to electricity.

Case III. Upper bicuspid pulp extirpated without pain after twenty minutes' treatment.

Case IV. Upper bicuspid pulp removed after ten minutes' treatment with eight cells.

I attribute my rapidity in obtaining results to using cocaine solutions as nearly saturated as possible.

I have always used the solutions as strong as I could make them, and have never had any but the pleasantest experiences.

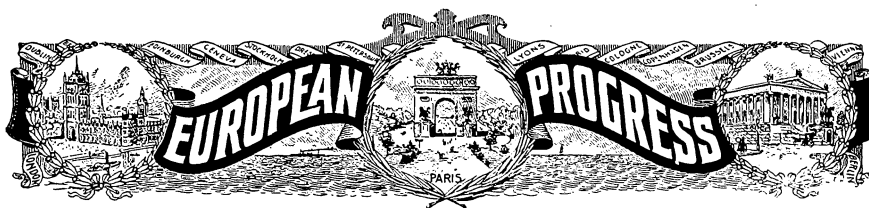
The first case cited was treated with an aqueous solution of cocaine made at the time of application.

I always make my solutions fresh for every case. In all subsequent cases, the solutions were in electrozone.

I have been most successful in using the self-retaining positive electrodes, as it is impossible to hold the electrode firmly by hand, and the least trembling of a tired hand will be felt by the patient unpleasantly, often causing considerable pain; for the negative pole, a sponge, saturated with a weak solution of bicarbonate of soda in warm water, strength of one drachm to the ounce, attached to the wrists, gives the best results.

Low voltage and light resistance gives better results and gives them more quickly than high voltage and high resistance, and I think that a great many failures may be attributed to operators trying to obtain results by using high voltage.

In a number of cases where high voltage gave no result, recourse to a light current gave success in a short time.



## Experiences with Eucaine.

BY DR. B. DZIERZAWSKI,

Lecturer on the Pathology and Therapeutics of the Teeth in the Dental School of Warsaw.

*Translated from Zahnärztliche Rundschau.*

I commenced my experiments with Eucaine in last August. I had formerly employed ethyl chloride; but the difficulty in directing the stream exactly to the spot desired; the excessive salivary flow; the impossibility of freezing both surfaces of the gum at the same time, which is necessary to secure local anaesthesia for operation on all but the incisor teeth; the pain that it causes; the fugacity of its action; and finally, its high price, and the possibility of inducing an undesired general anaesthesia; all these are decided disadvantages. As regards cocaine, the external application of a strong solution of the drug itself is seldom sufficient for extractions, and is as dangerous as its injection. Even a one per cent. solution injected into the gum may cause trouble. During the present year I did over 100 extractions in about 50 patients, and I had four cases of poisoning, three of which were fairly serious ones, although I never exceeded 0.01 grm. (1-16 grain), one syringeful. And even the one per cent. solution is not strong enough in the extraction of crowns where periodontitis is present. The possibility of poisoning, even with medium quantities of a weak solution; its uncertain action in such weak solution; the impossibility of injecting it when there is much inflammation of the periodontal membrane; the secondary hemorrhage which is liable to occur, though the primary anaemia favors haemostasis; these are the disadvantages of cocaine. Being a firm partisan of local anaesthesia, I was glad to try Eucaine in the place of these two anaesthetics.

I have used Eucaine in 81 private patients, 75 times for extractions, and six times for other purposes. I employed a ten per cent. solution in 16 patients for 27 extractions, using a quarter to one syringeful (2-5 to 1½ grains Eucaine), and in one case (extraction of five roots and operation



on a cyst), two syringefuls (3 grains). In no case were there any symptoms of general poisoning, formication, faintness, etc., as occurs with cocaine. Only in the case where two syringefuls were used the patient was dazed during the operation, and not only felt no pain, but did not know what was being done. Her pulse was not even accelerated, and, though she had some headache and vomiting after the operation, she slept well that night. None of the other patients showed any general effects. The anaesthesia with the ten per cent. solution was complete; in two of the cases the patients were not even aware of the operative act. In a few cases, where several teeth and roots were to be removed, I employed the Eucaine solution on some teeth and a one per cent. cocaine solution on others. The Eucaine anaesthesia was incomparably better, and the injection itself not more painful than that of the cocaine. Painting the site of the puncture with Eucaine before injecting the solution rendered even this almost painless. Three patients had fairly well marked, and two patients a very slight, swelling after the injection. In seven there was no swelling, and in six the result was not known.

A five per cent. solution I used in 46 cases, and no general symptoms were observed in any case. The dose of one syringeful was never more than  $\frac{3}{4}$  grain Eucaine. The anaesthesia was as good as with the 10 per cent. solution in 40 cases. In six cases it was insufficient. In four of them it was impossible to make an exact injection in consequence of the local conditions, and in the two others the root sheath was highly inflamed, and the entire gum infiltrated. Six patients had the subsequent swelling; 20 did not have it; and in 20 cases the result was not known. In one case the pulp of the first molar was gangrenous, and the needle of the syringe probably penetrated the alveolus; the extraction was not felt, and there was a transitory numbness and anaesthesia of the whole left upper jaw after the operation.

Swellings visible to the eye were caused three times in the 62 patients of the above two categories; 26 patients were not heard of after the operation; this is a ratio of about five per cent. The swellings of the soft parts were colorless and painless, and the neighboring lymphatic glands were not involved. They lasted three or four days, disappeared without treatment and without leaving any trace, and were of importance only on account of the deformity that they entailed. Less well marked swellings, not visible from without, were recorded in six cases.

I also used the five per cent. solution for intracutaneous injection in opening an abscess in one case, for injection into the gum before a partial resection of an alveolar process once, twice as an external application before cauterizing the gums, and once before opening an alveolar abscess. The result was in all cases a satisfactory one.

I do not puncture the gum after the operation and attempt to express the Eucaine, since I believe that that merely spreads the solution and increases the swelling.

Gangrene of the mucous membrane of the gum I saw only in one case, where a five per cent. solution was employed; but I cannot say that it was caused by the Eucaine. Gangrene of the gum itself after Eucaine injections I have never observed, though I cannot deny its possibility. It may have occurred in consequence of too forcible injection of the solution and mechanical damage of the gum.

I used a two per cent. solution in 13 cases of extraction; but this solution was not always strong enough to cause satisfactory anaesthesia, and was about equal to a one per cent. cocaine injection in efficacy. It never caused any swelling; but I have ceased to use it.

I can summarize my experiences with Eucaine as follows:

1. Eucaine is a very valuable drug, more especially on account of the absence of any general toxic effect in the dosage that is employed in practice, and it possesses full anaesthetic powers.

2. No stronger solution than a five per cent. one should be employed, and the internal dosage should not exceed  $\frac{3}{4}$  of a grain.

3. A five per cent. Eucaine solution removes pain much more thoroughly than a one per cent. cocaine solution. The injection of a five per cent. solution causes profound local anaesthesia, sufficient even for the extraction of teeth when periostitis is present.

4. We must warn our patients before undertaking the injection of the swelling that may be caused, though it is absolutely harmless. If the patient does not accept this, we should abstain from the injection.

5. In an advanced periodontitis, where a large extent of the gum is already infiltrated, the injection of Eucaine is painful, and its result somewhat uncertain. But in those cases where a portion of the gum is still healthy, and where the needle can be passed into normal tissue, complete anaesthesia can be obtained by its means even when there is well advanced periostitis.

The injection must be made slowly, so as to spread the fluid in the tissue of the gum, and so as not to irritate and do mechanical damage to the tissue. Nor must the quantity employed be too great. As with cocaine, blanching of the tissues shows that they have been sufficiently infiltrated; and the white spot fades quicker with Eucaine than with cocaine. Any further injections must be made outside the area of the blanched tissues. The injection should not be superficial enough to permit the fluid to accumulate in a subepithelial bleb, and possibly lead to death of the epithelium.

## Eucaïne and Cocaine.

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By GEORGE RANDORF, Berlin, Germany.

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Dr. Paul Reclus gives an interesting comparison in *Arch. Med.* between the new and the old anaesthetic, from which we give the following extracts.

Eucaïne, discovered by Merling, has been studied in the laboratory of Liebreich, Berlin, by Gaetano Vinci. According to this author, the physiological action of eucaïne is identical with that of cocaine, with certain differences, however, of which the most important, quite in favor of the eucaïne, is that the latter possesses the power of intoxication in an inferior degree; therefore, a greater quantity could be injected into the organism, and would cover, without danger, a larger field for the operation.

It is always difficult to compare two local anaesthetics, because we can only judge the pain by the manifestations which it provokes, and nothing is more deceptive than these manifestations. Some patients cry out under the same injection in the same tissues, where others do not even frown. The only means of getting at an exact result is to divide the field of operation in the same patient into two halves and anaesthetize each of these halves with a different anaesthetic. The two sensations following each other immediately, whilst the bistoury passes, the patient is enabled to give precise information to the surgeon.

In his first experiment Dr. Reclus made a hypodermic injection of eucaïne into six centimeters of the incision, and of cocaine into the six other centimeters. The solution contained one centigramme of the agent to one gramme of water, the largest dose which he would use being fifteen centigrammes of the alcaloid. Five minutes was allowed to elapse after the injection, before using the bistoury while the patient was kept in a horizontal position, during the operation and for some hours afterwards.

Dr. Reclus says: "It is obvious from my clinical observations and from the experiments of M. Pouchet, that eucaïne, although a real analgesic, is not superior to cocaine; in fact, the injection is a little painful, the operating table is often covered with a blood stained sheet. The anaesthesia is less complete, and its duration is much shorter. Its intoxicating effect is nearly as great. Eucaïne must be manipulated with the same precautions as are required in the administration of cocaine; precautions which are often neglected, and little known.



## **A Large Nugget of Platinum. The Marvelous Properties and Uses of Platinum.**

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A recent shipment of crude platinum, consigned to Baker & Company, the platinum refiners, of Newark, N. J., contained a nugget which is believed to be the largest ever exhibited in this country. This nugget, illustrated herewith, is as usual of irregular form; measures approximately three by two by three-quarters inches, and weighs nearly two pounds. It is now on exhibition at the New York office of the above-named firm, No. 121 Liberty street, where it is attracting the attention of metallurgists and the admiration of all who are interested in mineralogical curiosities.

It may be of interest to the general reader to learn that platinum ore is a most complex mixture of mineralogical species, and includes not only a number of heavy reguline ingredients, such as platinum, iridium, osmiridium, palladium, rhodium, and gold, but also certain non-metallic species, notably chrome iron ore, magnetic oxide of iron, zircon corundum, and frequently diamonds. Because of its complex composition the ore has received the name of "polyxine."

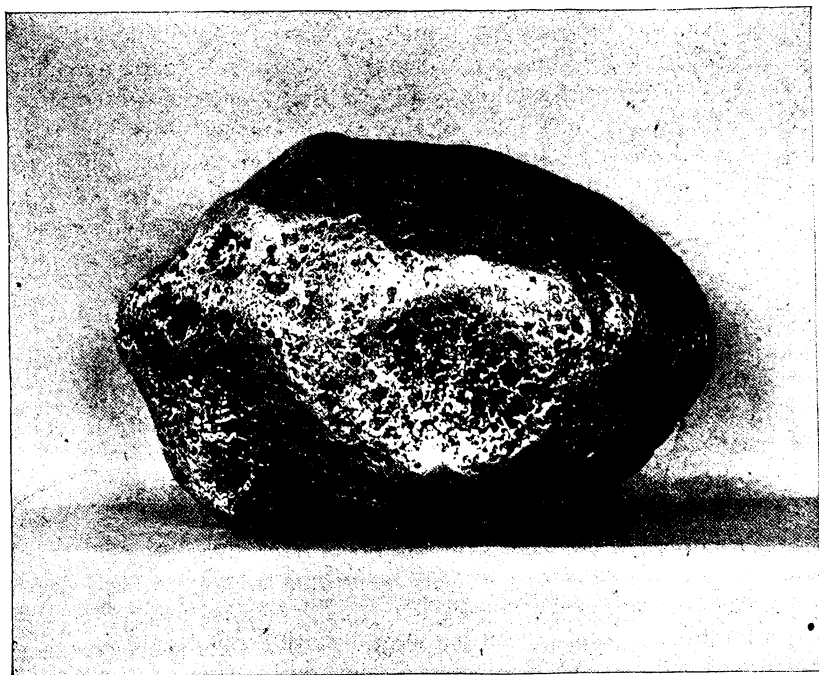
The heavy reguline ingredients are rarely found except in the form of small detached granules; the most notable exception to this rule being a nugget of Russian ore now in the Demidoff Cabinet in St. Petersburg, weighing between seven and eight kilograms. The average yield of metallic platinum from the ore varies between fifty and eighty per cent.

Platinum was first discovered in a Spanish mine in South America, early in the 16th century, from which source it received its name "platina del Pinto" (little silver from the River Pinto). The ore is now found in various parts of the world, but the richest deposits are those of the Ural Mountains, which have been worked under the supervision of the Russian Government since 1828.

The platinum of commerce is obtained entirely from alluvial deposits at depths varying from six to forty feet. The sand and gravel of former river beds are subjected to a series of screenings and washings to effect the separation of the ore, most of this labor in Russia being done by women. The yield of the ore per ton of sand seldom exceeds six grams.

Sand yielding less than three grams per ton is rarely worked with profit. All Russian ore pays a Government tax of three per cent. in the form of the ore mined, and any person possessed of the ore without a license is subject to imprisonment and confiscation of the metal.

Platinum occupies a unique position among metals. When pure and in compact form it is tin white in color. It is the heaviest and has the highest fusing point of any metal in commercial use, unalloyed. Its specific gravity is 21.5; it is therefore twice as heavy as silver and nearly three times heavier than cast iron. A temperature of nearly eighteen



hundred degrees Centigrade or three thousand three hundred degrees Fahrenheit, is necessary to fuse the metal; hence, it is unaffected by temperatures attained in the hottest of blast furnaces. This valued property has led to the extensive use of the metal in such furnaces as an important part of an instrument for measuring temperatures.

Platinum ranks fourth as a conductor of heat, and sixth as a conductor of electricity, among metals. It expands and contracts under variations of temperature less than any other metal, and because of this fact, its high fusing point and non-oxidability, platinum is the only metal that can be successfully sealed into glass vacuum apparatus.

Platinum is almost as soft as copper and ductile as gold. It can easily be rolled into sheets so thin that a thousand of them piled on top of each other would not exceed an inch in height. It is easily drawn into the form of wire not exceeding one-thousandth part of an inch in diameter.

For use as "spider lines" in optical instruments, platinum is drawn by a special process to diameters as small as sixty millionths of an inch. Such wires are nearly invisible to the unaided eye—a strand of it of sufficient length to encircle the earth at the equator would only weigh forty-six ounces.

Platinum is not attacked by any single ordinary acid, and is not changed by air, water or steam at any temperature. Because of its many peculiar qualities, it is one of the most valued metals made available to man's wants and notwithstanding its excessive cost (the present market price being \$14. per ounce), its yearly consumption is rapidly increasing.

Its rate of consumption may in a sense be regarded as an accurate index of the progress of civilization. Eminent statisticians have been wont to measure such progress in terms of pounds of iron consumed per capita; but it should not be forgotten that the consumption of iron, aside from an abundance of the ore, has been and must continue to be dependent upon the cheapness and quality of the product. To the chemist must be accredited primarily much of the marvelous advance in this field. But the chemist would be practically helpless in much of his work without the aid of platinum. In the words of Liebig, the eminent German chemist:

"Without platinum it would be impossible in many cases to make the analysis of a mineral. The mineral must be dissolved, and it must be first rendered soluble, or prepared for solution. Now vessels of glass, of porcelain, and of all non-metallic substances, are destroyed by the means we employ for that purpose." Crucibles of gold and silver would melt at high temperatures, but platinum is cheaper than gold, harder and more durable than silver, infusible at all temperatures of our furnaces, and is left intact by acids and alkaline carbonates. Platinum unites all the valuable properties of gold and of porcelain, resisting the action of heat and of almost all chemical agents. Without platinum the composition of most minerals would have yet remained unknown." Platinum is pre-eminently the metal of the chemist, both in analytical and industrial operations. No chemical laboratory is complete without a varied assortment of platinum apparatus, and fortunes are annually invested in platinum retorts for the commercial concentration of oil of vitriol. Chemical operations alone consumed until within a few years the bulk of the metal produced.

The dental and electrical industries, which have progressed so rap-

idly within recent years, are said at the present time to consume, in the United States alone, more than half of the world's supply of platinum. In the manufacture of artificial teeth platinum pins are used to fasten the porcelain teeth to the supporting plate during the process of baking the porcelain. Platinum is the only metal available for this purpose because of the high temperatures required. It is also used in the form of thin foil for taking the impression of cavities in natural teeth which are to be subsequently filled with baked porcelain, and still more extensively in the form of muffles to protect the baking porcelain from direct contact with the fire or the products of combustion, which would discolor the porcelain. The consumption of platinum in the dental industry of this country for 1897 will probably be a larger quantity than ever consumed before in a single year in that industry.

Platinum has played a most important part in the development of the incandescent lamp. It was early used as the light-giving body of the lamp, but subsequently yielded this position to carbon, because of the latter's higher electrical resistance, higher fusion point and lessened cost. Although now occupying a less prominent position in the modern lamp, it is nevertheless one considered as essential in the construction of a successful lamp. Many devices have been tried to avoid its use, but without commercial success.

Metal conductors are required to convey electrical energy through the glass walls of the incandescent lamp to the light-giving carbon filament within. Since the maintenance of a vacuum within the lamp bulb is essential to the life of the lamp, it can be readily understood that the leading-in wires sealed into the glass must have a higher fusing point than glass; must unite closely with it, hence must not oxidize at high temperature, and last, and a most important feature, the metal must expand and contract under variations in temperature so nearly at the same rate as the glass in which it is imbedded as to insure freedom from crackage of the latter and consequent leakage of air into the lamps. Here, again platinum proves to be the only metal that fulfills all of these essential requirements, and hence its continued and increasing use in spite of its high cost, which a limited supply enforces. Radical changes in the construction of incandescent lamps have reduced the consumption of platinum per lamp enormously, but on the other hand, the production of lamps has increased in greater proportion, and the aggregate consumption is greater than ever before in that industry. The telephone, telegraph, and, in fact, almost all of the electrical industries are yearly making heavier demands upon the limited supply of the metal. Physicians require it in cauteries and surgical instruments where extreme cleanliness is important. Platinum is extensively used in the finer grades of jewelry, and a number of its

salts continue in favor as superior to anything else for producing dead black surface effects upon silverware.

In photography the present fad for "platinotypes" illustrates a comparatively recent demand for certain salts of platinum. Platinum salts are also used by many photographers in preference to gold salts in toning silver prints. The platinotype is a special favorite because of the simplicity of the process of production, the artistic effects produced, and the permanency of the picture.

To enumerate the many and varied uses of platinum and its salts would extend this article beyond reasonable limits. Suffice it to add that the latest application of its peculiar properties is due to Roentgen's discovery that certain invisible rays of energy when allowed to fall upon one of the double salts of platinum (barium-platino-cyanide) render the same luminous, so that a screen of paper covered with this salt and exposed to the action of Roentgen rays serves for the production thereon of a shadow picture of many objects of variable density which may be interposed between the screen and the source of the Roentgen rays. Metallic platinum is also a most important factor in the construction of Roentgen ray apparatus, both as a means of conveying electric energy into the vacuum chamber, and as a source of excitation of the X or Roentgen rays. Thus, in this most recent development of the agencies for anatomical and physical research, platinum plays a most important part—one which largely enhances its utility and value to mankind.— *Exchange*.







## **Dentigerous Cysts: Their Origin, Cause and Treatment.**

By DR. JUL. WITZEL, Dentist, Director of the Royal Dental Institute of the University at Marburg.

With one Table—Leipsic, 1896.

This little book, although not voluminous, belongs to the best works in the literary domain of dentistry. It treats of a subject, which for a long time has engaged the attention of many prominent dentists, although no one has as yet succeeded in satisfactorily explaining the etiology of this rare malady. Witzel has devoted a great amount of thought and study to this subject, and he has thrown some light upon the origin of these cysts. From a pathological, as well as from a clinical standpoint, the author offers a perfectly clear picture, the result of his own researches, aided by excellent clinical material collected by himself.

The book is divided into three parts, each complete in itself. The first treats of the theories heretofore advanced, of which those of Magitot and Malassez are specially set forth. Witzel gives in full all the discussions between these two authors, so that the reader readily comprehends their views. The second part is devoted chiefly to Brunn's discovery, and the researches of Morgenstern.

The author rejects Magitot's view, that the periosteal cyst is caused by a traumatic injury of a tooth, or through an inflammation of the pulp. Witzel in opposition to Magitot thinks that the first stages of the formation of the cysts develops independently of secretion, and that a dentigerous cyst originates in a growth of the epithelial-cells which surround the apex of a root. In the third part the author discusses the conditions and circumstances of the cysts from a clinical point of view. He mentions one hundred and five cases, which he divides according to age and sex. These statistics show that in most cases cysts were observed between the ages of twenty-one and thirty; that they occur less frequently in those of advanced years; and are rarely if ever seen, after the loss of the permanent teeth, in old age. In opposition to all previous theories, the author believes that the formation of cysts is caused by a chemical irritation. This

irritation produces an increased supply of blood to the tissues, which he designates "Irritation-hyperaemia." This hyperaemia causes a rapid proliferation of the epithelium and the formation of the binding substance characteristic of the first stage of cysts.

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## **Micro-Photographical Atlas of the Pathological Histology of Human Teeth.**

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By WALKHOFF.

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This work is the continuation of Walkhoff's Micro-Photographical Atlas of the Normal Histology of Human Teeth, which appeared about one year ago. The illustrations are reproductions of micro-photographs and the author has been very successful in giving us distinct pictures. The advanced student will find it useful in his further studies, while the beginner is introduced very practically into the study of pathological microscopy. Every ambitious dentist will find this a desirable book of reference. The author, well knowing that for micro-photography, only the very best preparations are suitable, has, in completing his atlas, co-operated with such men as Miller, Partsch and Rothmann, and he has attained his aim in a most perfect manner.

One great advantage of the work is that the explanations of the illustrations are given in English, French, and German.



## In Memoriam.

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**John C. Storey, M. D., D.D.S.**

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It is with extreme sorrow that we must announce the death of Dr. John C. Storey, which occurred March 17th, 1897.

At the time of his demise he was the editor of the *Texas Dental Journal*, the readers of which will miss his fluent pen. He was a man conspicuous among his fellows, and to him as much as to any single individual was due whatever of prominence the State of Texas may claim in the world of dental science. Personally he was a man of magnificent physique, and possessed great personal magnetism, which made him especially fitted to the position of presiding officer. The Southern Dental Association never had a better. The following obituary notice appeared in the pages of his own magazine, the *Texas Dental Journal*, and adequately gives the particulars of his life and death:

"He was a man of sterling worth, possessed of a tender, kindly heart, a fine mind well stored with useful knowledge, which had ever been freely given to the profession for its use and elevation. His gifted mind has been recognized throughout the United States and his writings read with great benefit to all. He loved his profession and all who were connected with it who followed it legitimately, disliking the "quack" as bitterly as he loved the true and honest.

"Dr. Storey was born in Green county, Alabama, in 1836, and his father, Dr. John C. Storey, was one of the pioneers of that State. He was graduated from the Atlanta Medical College in 1857, and practised his profession in Green county from 1857 to 1860, and then removed to Louisiana. At the beginning of the war he enlisted in the Nineteenth Louisiana Infantry, and in 1862 was discharged on account of ill-health. He afterward re-enlisted as assistant surgeon, and from this time to the close of the war he was busily engaged in caring for the sick and wounded. At the close of the war he married Miss Wiley, daughter of Rev. E. E. Wiley, of Emery, Va. Four children were born of this union—John E., Clarence L., Virginia E., and Theodora J. Mrs. Storey died June 27, 1891, and her remains were interred in Trinity Cemetery. In 1867 Dr. Storey entered the Baltimore College of Dental Surgery and was graduated in 1869. In 1875 he came to Dallas and has resided here continuously since that time. He was a member of the Southern Dental Association and of the Texas Dental Association, and had served as president of each of these organizations.

"Dr. Storey was a member of the Presbyterian church, having joined that denomination almost thirty years ago.

"He was also a member of Camp Sterling Price, United Confederate Veterans.

"The funeral services were conducted by his pastor, the Rev. Dr. W. M. Anderson, in the First Presbyterian Church, at 11 o'clock Saturday morning, March 20. The church was filled with friends and relatives. The many tributes of love and respect paid to the man by his pastor, found response in the hearts of his loving friends there assembled to pay their last respects to him with whom they had worshipped so many years as members of the same body. The floral emblems were many and beautiful. The interment was at Greenwood (Trinity) Cemetery, where he was laid by the side of the wife of his youth who preceded him to the land beyond five years ago. The obsequies were in charge of Camp Sterling Price, who attended in a body to do honor to their dead comrade, Judge F. G. Bower and Rev. W. L. Lawrence conducting the burial ceremony.

"The pall-bearers were Drs. Thurston and Lane, of the Dallas Medical Association; Drs. Westerfield and Fife, of the Texas Dental Association, and John J. Conroy and Major Wortham, of Camp Sterling Price.

Dallas, Texas.

"T. L. WERTERFIELD."

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### **Frank Abbott, M. D., D.D.S.**

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Dr. Frank Abbott, the Dean of the New York College of Dentistry, died suddenly on the night of April 20th, 1897. He had been afflicted with some derangement of the heart for nearly two years, but was not considered to be in imminent danger until within an hour of his death.

Dr. Abbott was born at Shapleigh, Me., September 5, 1836, and came of one of the oldest and best-known families in New England. His ancestors came to America in 1640 and settled in Andover, Mass. Young Abbott attended the schools in his native town, and at twenty years of age became a student in the office of a dental surgeon in Oneida, N. Y. He removed to Johnstown, N. Y., and practised there continuously except for the time spent in the army during the late war until 1863. He served as first lieutenant in Company E of the One Hundred and Fifteenth Regiment, New York Volunteers, and after taking part in several engagements was taken prisoner at Harper's Ferry.

Upon his release he went back to Johnstown. A year later Dr. Abbott removed to this city and subsequently took a course in medicine at the University of the City of New York, from which institution he was graduated in 1871.

During the second year of the existence of the New York College of Dentistry, Dr. Abbott was made a clinical lecturer. Four years after the opening of the college, he succeeded to the position of Dean, Dr. Norman W. Kingsley, the first Dean, having resigned. Since that time Dr. Abbott held the position continuously up to the date of his death.

He was an enthusiastic collector of rare prints relating to American history, and is said to have possessed the finest collection of its kind in this country.

Dr. Abbott was a member of the University Club and a prominent Mason. He leaves a wife and two daughters, Mrs. Willet Coles Ely and Mrs. Katharine C. Abbott, and one son, Dr. Frank Abbott, Jr. He was buried at Johnstown, N. Y.





### **American Dental Association.**

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The thirty-seventh annual session of the American Dental Association will be held at Old Point Comfort, Va., commencing at ten A. M., on Tuesday, August 3d, 1897.

GEORGE H. CUSHING, Recording Secretary,  
Chicago, Ill.

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### **Colorado State Dental Association.**

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Regular annual meeting of the Colorado State Dental Association will be held June 8th, 9th and 10th, 1897, at Colorado Springs.

The feature of this meeting will be that dental subjects under discussion shall be demonstrated by Clinics.

Signed, J. S. JACKSON,  
Cor. Sec'y State Dental Ass'n.  
1505 Stout Street, Denver, Colo.

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### **Colorado's New Dental Law.**

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The Governor has signed a bill enacted by the last General Assembly to regulate the practice of dentistry in the State of Colorado.

The main features of the bill are: That the Board of Dental Examiners shall consist of five (5) members, three of whom shall be recommended by the Colorado State Dental Association. No temporary licenses are to be issued.

All applicants for a license shall be examined by the Board of Dental Examiners. No one shall receive a license or be eligible to an examination who does not, as a prerequisite for such examination, possess a diploma from some reputable Dental College.

Signed, J. S. JACKSON,  
Cor. Sec'y Colo. State Dental Ass'n.

### **New Jersey State Dental Examinations.**

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The Dental Examining Board of New Jersey will meet at the Commission rooms, No. 88 Broad Street, Elizabeth, N. J., on Tuesday, July 13th, for the examination of candidates for license to practice dentistry.

All applications for examination must be in the hands of the Secretary on or before June 30th. Blanks and instructions sent on application to the Secretary.

G. CARLETON BROWN, Sec'y.  
No. 88 Broad Street, Elizabeth, N. J.

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### **New Jersey State Dental Society.**

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The Committee on Prosthetic Dentistry of the New Jersey State Society invite all those who have anything new in this line or anything of interest to the profession to exhibit the same at their annual meeting in Atlantic City, July 21st to 23d, inclusive.

Intending exhibitors should notify us immediately, so that we may get their names on the programme.

C. S. HARDY,  
Sec'y Com. on Prosthetic Dentistry.

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### **Tennessee State Dental Association.**

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The meeting of the Tennessee State Dental Association has been changed from Lookout Mountain to Nashville, for July 6th, 7th, 8th and 9th, to be given in attending the Exposition.

All dentists in good repute are cordially invited to meet with us.

U. S. BILLINGER, Pres.

B. D. B. BRABSON, Cor. Sec.

Knoxville, Tenn.

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### **Missouri State Dental Association.**

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The thirty-third annual meeting of the Missouri State Dental Association will be held at Pertle Springs, Mo., July 6th to 9th, inclusive.

Our programme promises to be unusually good, our place of meeting is a delightful little summer resort, good railroad and hotel accommodations. Come! You will enjoy it.

F. M. FULKINSON, Corresponding Secretary,  
Sedalia, Mo.

## **Second District Dental Society of the State of New York.**

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At the annual meeting of the Second District Dental Society, the following officers were elected for the season of 1897-1898:

O. E. Houghton, president; J. A. Schmidt, vice-president; W. J. Turner, recording secretary; D. W. L. Parker, corresponding secretary; U. G. Woolley, treasurer; H. C. Ferris, librarian.

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## **Vermont State Dental Society.**

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At the 21st annual meeting of the Vermont State Dental Society, held at Montpelier, March 17-19, the following officers were elected for the ensuing year:—President, Dr. C. S. Campbell, St. Albans; 1st Vice-President, Dr. J. A. Robinson, Morrisville; 2d Vice-President, Dr. K. L. Cleaves, Montpelier; Recording Secretary, Dr. T. Mound, Rutland; Corresponding Secretary, Dr. Grace L. Bosworth, Rutland; Treasurer, Dr. W. H. Mumsell, Wells River; Executive Committee, Dr. H. Turrill, Rutland; Dr. C. W. Steele, Barre; Dr. J. E. Taggart, Burlington; State Prosecutor, Dr. G. W. Hoffman, White River Junction.

Next meeting to be held at Rutland, the third Wednesday in March, 1898.

THOMAS MOUND,  
Rec. Secretary.

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## **Illinois State Dental Society.**

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The thirty-ninth annual meeting of the Illinois State Dental Society was held at Peoria May 11th to 14th, 1897. The following officers were elected for the ensuing year: President, J. A. W. Davis, Galesburg; Vice-President, W. A. Johnston, Peoria; Secretary, A. H. Peck, Chicago; Treasurer, E. D. Swain, Chicago; Librarian, Grafton Monroe, Springfield. The next meeting will be held at Springfield, May 10th, 1898.

A. H. PECK, Sec.,  
Chicago, Ill.